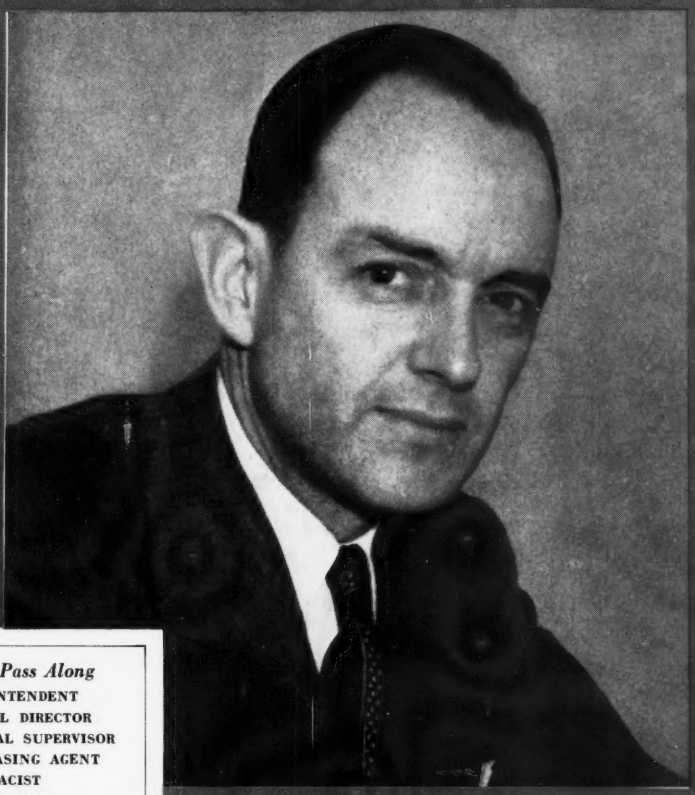
STACKS

Hospital Topics

AND BUYER

VOLUME XX FEBRUARY, 1942 NUMBER 2



Milo F. Dean

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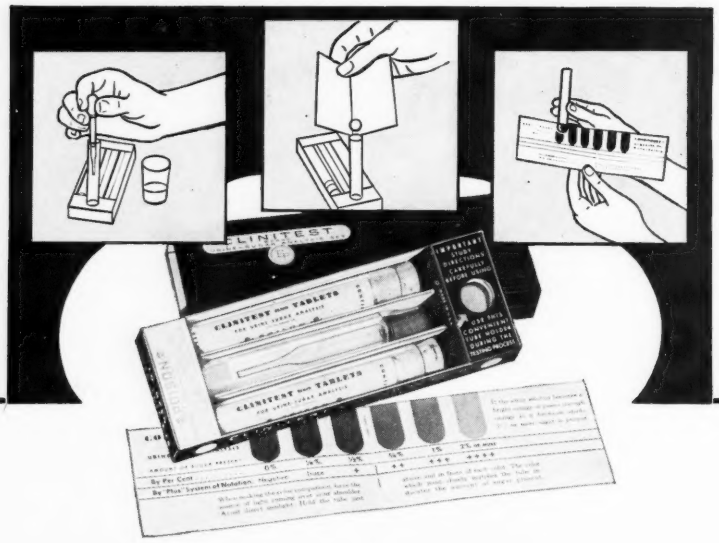

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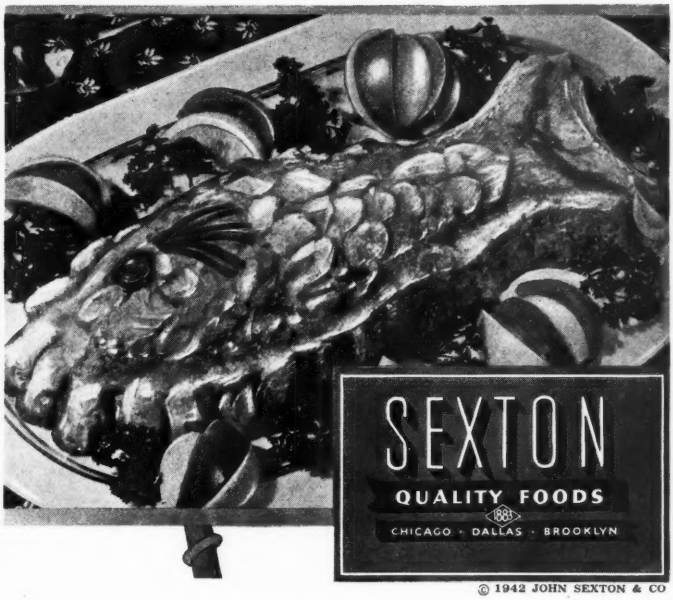

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Hospital Topics *and* Buyer • **Vol. XX, No. 2, February, 1942**

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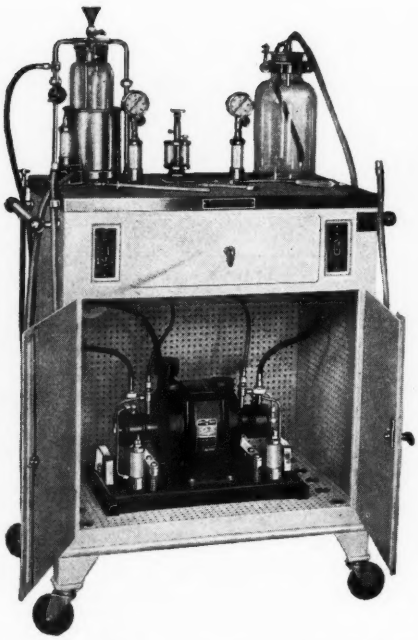

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The Bellevue is now equipped with a one gallon size suction bottle. The ether supply has a double heating device, and both ether and vacuum lines are equipped with perfect filter systems. The heater switch is so wired that it can operate only when the motor switch is on. This safety wiring makes it impossible to leave the heaters accidentally in operation when the motor is not running.

The pressure and vacuum gauges and regulating valves are on top of cabinet, easy of access. All features of the Bellevue are highly perfected. Entire unit is fireproof and explosion proof.

PRICE for unit operating on 110-120 volt, 60 cycle **$355**

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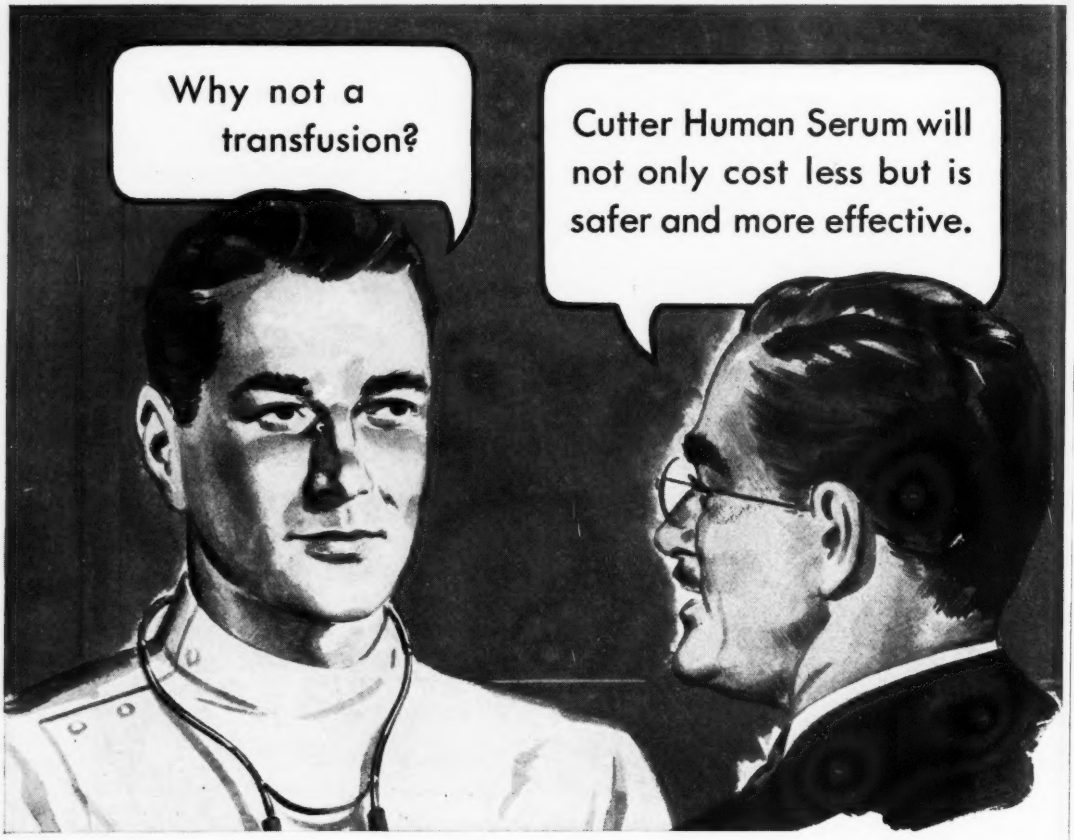

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Hospital Topics and BUYER

The Friendly Hospital Journal

Distributed monthly to every hospital, sanatorium, and allied institution in the United States and dependencies

HOSPITALICS

An investigation in England demonstrates the ability of disease germs to live in the absence of moisture. This means that the sneeze projects thousands of organisms into the air, where they can remain suspended on dust particles for comparatively long periods of time—long enough to do damage, anyway.

The investigator, Dr. Edward of London, has also demonstrated that bacteria of influenza and pneumonia can be spread by contaminated bed-clothing as well as dust. Some of the influenza virus sprayed on a blanket remained active as long as two weeks.

• •

The newest use for plastics is a surgical window which can be placed over a wound, and enables the physician to inspect it as he wishes.

• •

There is a shortage of interns, and worse than that is the observation that the health of interns still remains, on the average, poor. These boys appear to be generally susceptible to tuberculosis. In medical schools the youngsters jokingly refer to it as the "medical student's disease."

Next to it comes a susceptibility to appendicitis and pneumonia.

The strenuous life of the lad who aspires to become a doctor is one which requires sympathy and consideration. It is advocated that more care and attention be given to the diet of the intern, his living quarters and the facilities for recreation and undisturbed rest.

The educational standard for the young doctor in the U. S. is the hardest in the world. If the authorities ask from him these strenuous years of study and work, they in return should pay more attention to his care and health.

• •

Racketeering has reached a new high (or low) with a 16-year-old Negro boy down in Dallas. He's a recognized typhoid carrier, and no jail or reformatory wants him around for fear of an epidemic. He therefore steals when he pleases and freely admits his delinquencies to the Dallas county juvenile authorities. He has been three times released from the Gatesville reformatory as representing a menace to other inmates, says *J.A.M.A.*

• •

Newfoundland is to issue a postage stamp to honor the memory of Sir Wilfred Grenfell, the Labrador medical missionary.

• •

Our esteemed Dr. MacEachern humorously states that his address most frequently is "Pullman Car, North America." Because "Pullman Car" does not rate a delegate to the American Hospital Asso-

ciation, however, he answered to the call of the delegate from Delaware—that state in which it is easy to incorporate.

We hear that he has recently changed his delegateship to Wyoming. Now Wyoming is a great state—a place of wide and open spaces. We hope to meet Dr. MacEachern out there some day, and he wearing a big hat and riding a well-behaved broncho.

• •

We must weep in sorrow for Greece. What was once her grandeur has been reduced to desolation. The Germans can never live down the disgrace of depriving the Greek people of their food. Now, in addition to the horrible spectacle of thousands of men, women and children dying by the day of starvation, is added a wave of diptheria and cholera. Greece needs a Byron to sing her woes and a Hoover to feed her people.

• •

We are encountering a food blockade. Our leper colony in the Philippines is facing a food shortage. This is on the island of Culion, and it has a population of 6000 lepers and several hundred doctors and attendants. The director is asking the Japanese to declare Culion a neutral zone and allow food shipments. Just imagine an American official having to ask that of the Japanese.

• •

In an account of the Belgian campaigns by George Weller, we find that in the African fighting most of the losses were through bacillary dysentery.

Fortunately the discovery of sulfaguanidine provides a weapon against that war-time affliction.

• •

One time an old crab asked "What use is a dog? It doesn't lay eggs." But the pup has persisted as man's preferred four-legged companion. Now he is proving his usefulness in war time. Troops guarding coast areas and strategic points of importance have trained dogs to walk the beat with the human sentries. The people who train these watch dogs propose that in addition to sentry duty, dogs will be trained to locate wounded, like the fabled St. Bernards in the Alps, and carry messages. We used pigeons for this in the last war.

• •

Nancy Vance was a nurse in Virginia for more than twenty years, and then cancer struck her down.

Facing the inevitable in the University of Virginia Hospital, she wrote a letter to her friends in the nursing profession to start an anti-cancer fund. Her friends, and people who have heard of her fund, are sending in contributions.

• •

We have often wondered about these fellows who lay linoleum and carpets, who always seem to have their mouths full of tacks. We wondered if they could help but gulp a few down when somebody slapped them on the back, or if they had developed an immunity to sharp things, like sword-swallowers do.

Now, from the North Hudson Hospital, in Weehawken, comes the answer. A linoleum and oilcloth worker was just operated on there, for what might be called "hypertaxia" or "taxemia." They took 90 minutes to operate on him and removed 410 1¼-inch tacks which the patient had swallowed over a number of years, in the course of following his trade.

• •

The nurses' magazine, *R. N.*, reports that during the building of the Egyptian pyramids in several-thousand-years B.C., over a hundred nurses were kept on duty to take care of the 20,000 slaves and artisans. We wonder if they dug that information out of the Ebers Papyrus.

• •

The U. S. Navy has taken some tough smacks in recent months, but the Medical Department has reason for boasting. The rate of venereal diseases in the Navy and Marine corps is the lowest in history.

Milo F. Dean

"HOSPITAL work grows on you" opines this gentleman from Montana, who likes action in that typical western way, so for the past ten years has found much satisfaction in making the wheels go 'round the faster for Montana crippled children.

Right now he's at Montana Deaconess hospital, Great Falls—took over its superintendency the first of January. It's one of the largest hospitals in the state, and Administrator Dean is busy with the "cylinders," working out some new details of business and personnel organization.

Mr. Dean originally entered hospital administration via the business office door. It came about when, in 1925, just out of college, he became office manager and bookkeeper to the Montana Children's Home Society, state-wide child-placing and aid organization, with headquarters in Helena.

To furnish needed medical care for these children, the Society in 1929 formulated a plan and erected a hospital—it suffered somewhat under the baleful influence of the early thirty's, but fortunately survived to do a big job for handicapped children. Upon the death of Supt. Joseph V. Hawk, Mr. Dean was called upon to take over, which he did so capably that in 1938, the $100,000 Shodair Crippled Children's hospital was opened as a special unit, and Montana had an orthopedic hospital—state-wide, non-sectarian and handling about 50% of its cases as charity. The physical therapy department is generally considered to be the largest and most complete in the state. Milo Dean, as supt., really had his head "way in the hood" on this project: obtained the gift of money for it, spent a month's coast-to-coast trip visiting children's hospitals, helped the architect draw up the plans.

Business administration was Mr. Dean's dish, even back in his fledgling days at Intermountain college. Then, as now, no stranger to the well-rounded schedule and the full day, he worked his way through school as a bookkeeper and clerk, managed a busy campus career on the side as president of the student body and student council, member of the debating society, taking part in track and basketball events —and handling a district commissionership in the Boy Scouts.

Mr. Dean has been a member of the National Conference of Social Work for ten years, was president of the Montana conference in 1940. In 1939-1940, he was head of the Montana Hospital association, and it was during his regime that the Hospital Service association was organized. He's on the board of trustees of the Western Hospital association. He was enthusiastically "among those present" at the A. C. of H. A. Institute at the U. of Chicago, in 1939.

As the father of a 15-year-old son, and as a past scout leader, Mr. Dean takes much interest in local school affairs, belongs to a number of lodges, collects friends wherever he goes.

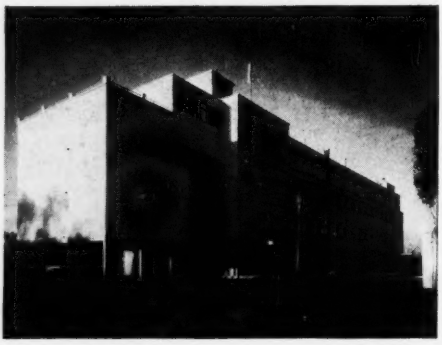
Speaking of collecting, with two fishermen in the family, and all the mountain streams around full of rainbow trout, you just ought to see the Dean collection of fishing tackle. They "go for" outdoor sports—Mrs. Dean, too—and spend their vacations at Whitefish Lake, near Glacier National Park.

Mr. Dean is English-Scotch-Dutch as to family extraction, and was born in Oklahoma.

Hospital Infantil

IN Mexico City's new *Hospital Infantil,* our neighbor to the south will have one of the world's leading hospitals for children. It will be opened probably sometime in May. A government institution of 600 beds, it incorporates some of the newest ideas in layout and facilities.

Architecturally streamlined by the architect José Garcia, this handsome building is one of the sights of Mexico City. The administrator is Dr. Frederico Gomez, president of the Inter-American Hospital association, by whose organization at last fall's convention, hospitals expressed their *amigo mio* sentiments and will build for greater cooperation.



Institute for Tropical Diseases, also in Mexico City.

One of Mexico's recently completed military hospitals.

The structure spreads out like a gigantic comb, with six wings of wards projecting from the main axis to provide a maximum of light and air. So successfully does this layout utilize the daylight, there will be no need for electric light from 6 a.m. to 6 p.m.

Each of the six "teeth" of the comb, as it faces the southwest, has five floors, with covered sun balconies at the end of each wing. On the fifth floor, this is an open solarium for tuberculous patients.

All types of children's diseases will be admitted to *Hospital Infantil.* It is carefully planned to avoid cross-infection. Each patient in the hospital will be isolated in open or closed cubicles, according to the type of case, and the wards are separated from the corridors by glass partitions, through which par-

ents can view, but keep their distance. The three wards for tuberculous patients on the third floor each have their own separate food service, likewise the infectious cases located in three wards on the top floor, which are served by personnel differentiated from the rest of the staff by a special uniform.

Speaking of the cubicles, a clever feature went into their planning which provides a flexible way to enlarge or reduce the capacity of each ward. Cubicles are located in the wards in groups of six, but the infants' and pre-school children's are exactly half the size of those for older children, permitting an adjustment of space if necessary.

This great plant, among its many facilities, has its own pharmacy, blood bank, research laboratories with animal section, lecture room and library for inpatients, ward for dental surgery, breast milk bank, orthopedic brace shop. Its complete x-ray facilities include deep therapy, and the physiotherapy unit provides hydrotherapy, educational therapy, orthopedics, electrotherapy, massotherapy, etc.

The surgical division, with its own x-ray services, is on the fourth floor. It has a general operating room with observatory, separate operating rooms for Eye, Ear, Nose and Throat and Orthopedics.

Outpatient services are provided, and there is an observation ward and social service department. *Hospital Infantil* also maintains a training school for orthopedic nurses, located on the grounds, but outside the institution.

This Mexican institution has well equipped itself for the educational and research role, and extends a friendly hand to the promotion of scientific exchange. Special postgraduate courses will be open to visiting doctors from the republic, and two foreign physicians will be given meals and living quarters on an exchange basis, with the opportunity of using their time in study, observation and research. Apartments have been reserved on the top floor to accommodate such visitors, next to those for the hospital's assistant residents.

Texas Association Considers War Problems

The Texans, gathering Feb. 26 and 27 at Houston, will have the privilege of hearing A.H.A. President, Dr. Basil C. MacLean speak on "Hospital Adjustment to War." It might well be termed the theme song, for this meeting, like most others this season, will be much occupied with this problem.

• •

New Council Aids OPM (WPB to You!) on Health Supplies

A new committee with a great big task is the Technical Council of the Health Supplies Branch. It was recently set up by the OPM to (1) Survey the problem of maintaining good health for our soldiers, civilians and allies and (2) See that production and distribution are made accordingly.

This means that it will advise and make recommendations for securing allocations for raw or essential materials essential for health, issue priorities on commodities for which there are no allocations, decide on the degree of necessity for health supplies and their allocation for production, and approve purchases and requisitions on health items for the army, navy, all federal agencies, lend-lease countries, American Red Cross and others.

This group, made up civilian and military health specialists, is headed by William M. Bristol, Jr., chief of the Health Supplies Branch.

• •

North Carolina and Its Mental Patients

An article in a Durham paper complaining of North Carolina's attitude toward its insane patients says the state is not only doing much less for them in its mental hospitals than other states, but that it is now spending 50 per cent less per capita now than it did 18 years ago.

Mental institutions are woefully undermanned, it is alleged, from the standpoint of physicians, nurses and attendants. The national standards are one physician to 150 patients, but the state institutions average about one doctor for over 500 patients, and only about 50 per cent of the requisite nurses and attendants are provided.

Hospitals "Get in the Scrap"

The "why" for the smiles? Methodist Hospital of Dallas gave Defense Stamps for Christmas, and each person who had been there ten years or more received a full book of $18.75, while everyone under that was given $1.00 for each year of employment. This made a total of $229 given out by the institution—and all for the good cause. Some $3,000 in stamps and bonds has been sold by the office since the hospital started handling them just before Christmas, says Supt. J. H. Groseclose.

Then, while America rummages its wastebaskets, scours attic and basement for "disposables" that can be put to some purpose in war production, hospitals, too, are doing their bit, many of them promoting the salvage and saving idea by means of posters, essay contests, etc. Methodist hospital, in a recent three weeks' contest among its student nurses which produced 25 posters, two scrap books and 30 essays, reports making the whole institution more thrift-conscious—and the benefits "got across" to the community, too, being well publicized by the local newspapers.

Re: salvage, the New York State Civilian Defense officials have put out a detailed list of desirable cast-offs you might keep in mind, in addition to the items you would more obviously look for around the hospital:

Beds made of brass or iron.
Electric cords (they contain copper wire).
Electric toasters, irons, heaters, fans, or any electrical equipment.
Hardware—Door knobs, hinges, keys, locks, trim, springs, etc.
Kitchen Utensils—Old knives, pans, pots, scissors, etc.
Lamps and lighting fixtures made of brass, copper or iron.
Ornaments—Metal ash trays, bowls, statues, vases, etc.
Porch and garden furniture made of metal.
Radios—Broken parts containing metal.
Screens made of brass or copper.
Toys—Sleds, ice skates, roller skates, etc.
Vacuum Cleaners—Broken parts made of metal.
Coal stoves that are worn out.
Fireplace Equipment—Andirons, grates, pokers, etc.
Fire extinguishers.
Furnace Parts—Old grates, doors, etc.
Iron and nickel parts of old gas stoves.
Pipes—Pieces of iron, brass or copper piping.
Plumbing Fixtures—Bath tubs, faucets, sinks, etc.
Radiators.
Refrigerator Parts—Ice trays, inside linings, etc.
Tools—All old tools.
Automobile Parts—Batteries, chains, license plates, parts of motors, etc.; tires, tubes.

Bicycles and tricycles.
Garden Tools—Lawn mowers, hoes, pick-axes, rakes, shovels, etc.
Motors and motor parts.
Playground equipment.
Pieces of old metal—well handles, etc.

How to Save Paper

Stack newspapers in large bundles. Tie two ways.
Open cardboard boxes, lay flat. Tie in bundles.
Stuff small waste paper into burlap bags or boxes.
Magazines using glazed paper should be segregated.
Do not save waxed paper, cellophane or butcher paper.

How to Save Rags

Burlap bags—keep separate.
Cotton and other textile bags—keep separate.
Waste material: clothing, shirts, suits, towels, etc. Stuff into bags or make into bundles.

Save Rubber Items

Arctics, overshoes, rubber boots.
Miscellaneous Items—Hose, gloves, hot water bags.

What Do YOU Say?

1. What death rate is to be expected among air raid casualties?

2. How many types of aerial bombs are there?

3. What does the Office of Civilian Defense consider as "possibly the most important single need in a hospital during war time"?

4. What are the British and German specifications for strengthening masonry buildings against collapse?

5. How many more dressings are usually necessary for a patient wounded in air raids, as opposed to those needed for peace time?

6. Does the OCD recommend sandbagging as a permanent protection procedure for hospitals?

7. What special construction is required in an ambulance used for transportation of gas casualties?

8. Different bombs require different treatment. Should a carbon tetrachloride extinguisher ever be used on a thermit or magnesium bomb?

9. What does the OCD office consider as workable methods for fireproofing the roof and upper stories?

(See Page 39)

More Hospital Beds for Washington Is Plea

"This is not a Gilbert and Sullivan war, it's a real one, and we've got to be prepared," declared Maury Maverick, chief of the Government Requirements Branch, on Jan. 21, in asking for immediate action on his recommendation for 1,000 additional hospital beds for Washington, D. C., now, in temporary structures and 1,000 more later.

Washington at present has only 3,087 beds for unrestricted use, and in the face of its rapidly expanding population and under emergency conditions, its need for hospital facilities—apparent several years ago—is now considered acute. The OPM recently advised the district commissioners not to hope for priority status for permanent expansion at this time.

And by the way, re: Washington, it seems that two more hospitals have recently been returned to taxable status, under a ruling that they are not conducted as purely public charities without charge to patients, therefore are not entitled to tax exemption. This makes a total of 10 returned to the list of taxable institutions, including Garfield Memorial and George Washington university hospitals, also Emergency, Casualty, Sibley Memorial, Episcopal, Eye, Ear and Throat, Providence, National Homeopathic and Children's hospitals.

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A Latin Visitor

The eldest son of the president of Brazil is a doctor, and during his current six-month visit here in the U. S., he will visit our leading orthopedic hospitals.

Dr. Luthero Vargas, who is only 29 years old, is chief surgeon of the orthopedic section of the Centro Medico Pedagogico Oswaldo Cruz of Rio de Janeiro.

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$300,000,000 Available to Defense Areas

Following final sanction last month, the bill authorizing a total of $300,000,000 has been made available as federal aid for hospitals, schools, sewage disposal plants and other facilities for defense work. The original bill called for $150,000,000.

American Science Rolls Up Its Sleeves

Scientific research is moving on a much faster time schedule than it did in the last World War, according to Dr. Frank B. Jewett, a member of the National Defense Research committee and president of the National Academy of Sciences.

Five hundred of America's leading scientists are now serving the government without cost, and 3,000 more research men and a like number of assistants are on the payrolls of industry and in laboratories at 600-odd defense projects for which about $25,000,000 has been appropriated. Vast projects are underway having to do with the micro-wave region radio, chemical and anti-submarine warfare, television and other lines of research.

Due to current demands for trained men, however, there may eventually be a shortage, especially for physicists and mathematicians, Dr. Jewett told the Institute of Radio Engineers at their Jan. 12 anniversary convention in New York.

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Housekeeper's Institute Scheduled for March

The hospital housekeepers are going to have an institute, held at the U. of Chicago, March 25-27, 1942. It is sponsored by the Chicago Hospital council and the Chicago Executive Housekeepers' association, the group to be limited to 100 people.

It's held in Chicago, but intended to provide educational facilities for housekeepers in Illinois, Michigan, Indiana and Wisconsin. Director: Mrs. Alta La Belle, of Chicago's Michael Reese, and chairman: Alden Mills, of *Modern Hospital.*

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Change in Preference Rating P-22

Hospitals have been notified that Preference Rating P-22 has been changed to Preference Rating P-100. The approved purchaser lists on his order this statement:

Material for Maintenance, Repair or Operating Supplies—Rating A-10 under Preference Rating Order P-100, with the terms of which I am familiar.

The endorsement is then manually signed.

If the Alert Sounds

All hospitals, in cities exposed to enemy action, are participants in the Emergency Medical Service, and as such, parts of the Civilian Defense, whose set-up includes, additionally: air raid wardens, fire watchers, rescue squads, repair squads, demolition squads, decontamination squads, and emergency food and housing services.

Integrated by a central administrative unit called the Control Center, here's how the services function:

1. Military establishments within the area will notify the Control Center of the approach of hostile aircraft. The Control Center relays this information to the district Control Centers.

2. The district Control Center makes the necessary arrangements to introduce the blackout and places the various units in the Protective Service on the alert.

3. If bombs fall the Air-Raid Warden notifies the district Control Center of the place and extent of damage giving the approximate number of casualties.

4. The district Control Center directs an appropriate number of Rescue Squads and Emergency Medical Field Units (and other units as may be necessary, such as demolition squads, fire fighting units, etc.) to proceed to the scene of the incident to carry out their various functions.

5. Casualties, following emergency care at the scene, will be dispatched to hospitals within the district.

6. When a hospital within the district has received a capacity load it will inform the district Control Center of this fact. The district Control Center will then direct that casualties be routed to other hospitals within the district until such time as they too have reached capacity.

7. When all the hospitals within a district are filled to capacity the district Control Center will communicate this fact to the main Control Center which will direct that casualties be routed to specific hospitals in some other district.

8. All other Protective Services will act similarly; that is, so long as the district is self-sufficient it will operate as a separate unit but when outside help is necessary it may be obtained from other districts by calling upon the main Control Center.

Mayors Warned to Watch Public Health

Surgeon General Parran caused quite a stir last month at the U. S. Conference of Mayors in Washington, when he delivered the statement that the enemy has planned, and in his opinion, will use bacteriological warfare wherever possible.

Protection for Hospitals — Official Recommendations of the OCD

Here is a document in which—needless to say—all institutions are vitally interested. With Bulletin No. 3 comes the official and detailed advice to hospitals for air raid protection, as prepared by a joint committee of the A.H.A. and the Office of Civilian Defense. Hospital administrators will also want to acquaint themselves with the two preceding bulletins on emergency medical service and equipment and operation of medical field units (details of which were condensed in our preceding issue).

THE installation of protective devices in hospitals is essential because the damage which might result in air raids to the unprotected hospitals, combined with a heavy casualty load, might result in the collapse of the medical services, says Dr. George Baehr, Chief Medical Officer of the OCD, in the foreword to this bulletin.

He continues: "In a recent letter Brig. General L. D. Gasser, U. S. Army, War department, member of the Board for Civilian Protection, said: 'From a practical standpoint, the installation of expensive protection procedures should not be undertaken except under conditions where frequent or continuous bombing can be expected.'

" 'The military situation today does not justify any such contingency. This does not preclude the desirability in the interest of preparedness of preparing plans so that they could be placed into operation very promptly and in an orderly manner in case of need.'

"The instructions in this publication cover the general principles of procedure to be observed in planning for the protection of hospitals. Regional civilian defense authorities in all parts of the country are in close touch with corps area commanders with reference to the military situation, and will apprise the local civilian defense authorities as to the need for immediate installation of the protective measures discussed herein."

The committee preparing this bulletin included Dr. Robin C. Buerki, Philadelphia, and Dr. Asabel J. Hockett, New Orleans, co-chairmen; Dr. Willard C. Rappleye, New York, Dr. Anthony J. J. Rourke, San Francisco; Dr. Joseph Turner, New York; Dr. Huntington Williams, Baltimore. Dr. James M. Mackintosh, former chief medical officer of the Scottish department of health, was the consultant.

PROTECTION OF BUILDINGS, PATIENTS, AND PERSONNEL

In estimating the possibility of damage to a hospital, the industrial, military, transportation and administration centers near it must be taken into consideration, as well as the number of searchlights, antiaircraft guns, and other defensive weapons in the immediate vicinity. In considering to what extent the facilities of a hospital may be employed during an incident, these various factors as well as the population density should be carefully weighed.

It is not practical to install in hospital buildings protective devices which would withstand the effects of a direct hit by a high explosive bomb. However, considerable protection may be given in some types of buildings without resorting to major structural change and it is this type of protection with which we are concerned.

Buildings with a continuity of structure are least likely to be damaged. Steel buildings are most resistant to blast and in addition are very resistant to splinters and fragments. In buildings of reinforced concrete, damage due to high explosive bombs is usually local. Such buildings are especially safe from a standpoint of fire resistance. *Wooden buildings are moderately resistant to blast but give little protection to splinters and are unsafe because they cannot be made fire-resistant.* Buildings carried on walls of brick and concrete blocks cannot be made safe except by major structural changes. No hospital building should be abandoned for structural reasons unless it is built entirely of wood, and a hazard even in peace time.

If services can be concentrated on the third floor or above, there will be considerable protection against splinters from high explosive bombs striking the ground nearby, and the danger of contamination by poisoned gas is reduced to a minimum. There should be at least two floors above the point of concentration of essential services to provide protection should explosive or incendiary bombs land on the roof. In less towering institutions where the number of floors in the upper portions of the building is insufficient for adequate protection, a moderate amount of safety for the housing of essential services may be obtained on lower floors in well framed buildings without major structural changes.

Sandbagging when properly carried out gives substantial protection but the expense of upkeep is considerable. This measure should be regarded as a temporary expedient to be replaced as soon as possible by a more permanent reinforcement.

A good deal can be done to protect basements and even ground floors. The greatest danger is collapse of the building or the fall of heavy debris through the floors. It is generally necessary to strengthen the ceilings of basements (and ground floors, if feasible) to support debris loads that may fall upon them. British and German specifications require strengthening to carry a load from 200 to 400 pounds per square foot in masonry buildings. This is commonly secured by the installation of tubular steel or timber struts to carry the additional weight. In hospitals of less than three stories in height, the essential services should be housed in the basement.

Basements offer the greatest protection from blast and splinters, but are very susceptible to earth shock. Because of the danger of transmission of shock a barricade should be built a foot away from the basement wall to keep persons and objects from coming in contact with a wall. Such a barricade can be made of chicken wire. Basements are further liable to the risk of flooding from fractured sewers or water mains and the acccumulation of war gases. The steam, water, and gas pipes which traverse most hospital basements introduce risks which are obvious.

In basements, protection against blast and splinters is best secured by removing windows and blocking up their openings by brick work. Adequate ventilation and lighting must be provided.

The ground floor cannot be so fully protected because of its exposed position. It is recommended that each window be permanently occluded to a height of six feet six inches from the floor. The window pane above this level may be protected by lowering the window below the point of permanent occlusion by replacing the glass with a glass substitute. It may be partially protected by wooden shutters two to three inches thick which reduce the danger from blast but will not prevent damage by bomb splinters.

On the other floors of a hospital there are two principal protection problems:

a) Fire prevention—which will be dealt with in a later section.

b) Protection of patients against the dangers of shattered glass.

GLASS PROTECTION

The only really safe way to avoid the risk of shattered glass is to remove windows and other glass structures. This is feasible in some cases and to a limited extent. Cubicle walls made of glass should be removed and replaced by screens. Other glass structures in obviously dangerous positions should be replaced, where possible, by wood or plywood.

Windows on lower floors can, as previously indicated, be protected by obstructing openings to a height of 6 feet 6 inches and inserting a glass substitute in the sash. Permanent obscuration in patients' rooms and wards is contraindicated because of the therapeutic need for good light.

It is important that all glass should be removed from skylights and domes; occasionally this involves a major structural change and cannot be carried out at a reasonable cost. In such cases the well leading to the dome should be boarded over in such a way as to minimize the danger of falling glass. In addition, the glass should receive the fabric-bitumen treatment discussed later. It is impracticable to protect large plate-glass windows. The glass may be removed and the opening closed with wood, in each of which openings is incorporated one or more small windows of glass or a glass substitute according to the lighting requirements.

Most of the plans suggested for preventing the splintering of glass have been found unsatisfactory for use in hospitals. Crisscrossing glass with strips of paper, tape, or gauze; or covering the entire pane with transparent paper or cellophane will not prevent a shattering.

Although the fracture of glass cannot be prevented, various means can be adopted to reduce the danger of flying splinters. One effective method consists of gluing a sheet of muslin or pieces of net curtains to the inside surface of the pane. The net or muslin should be large enough and so applied that its edges extend beyond the pane on all sides and are firmly adherent to the sash. The materials should be pasted on with colorless glue, or flour paste with 5 per cent glycerine added, and subsequently varnished. The varnish needs renewal every three months.

Glass should be further protected by chicken-wire mesh not larger than one half inch to prevent flying splinters. The mesh should be installed as close as possible to the inside surface of the glass, attached to a separate frame fitted snugly against the window.

When windows have been broken by blast or projectiles, they may be replaced temporarily by lightweight screens of plywood, building paper or wall board which will serve to maintain the blackout and protect against the elements. The installation of a glass substitute to replace fractured windows will give the best permanent results. Where this is not feasible, part of the window may be replaced by glass or a glass substitute, and the remainder filled with wood. The darkening of windows has a bad psychological effect on patients and whatever method of glass protection is adopted, it is of great importance that windows in wards and patients' rooms be capable of being opened during the hours of daylight.

Bitumen treated fabrics: Bitumen treated fabrics applied to the OUTSIDE of windows and skylights where permanent obscuration is feasible will maintain obscuration in the event the glazing is fractured and will, in addition, prevent the scattering of glass fragments (except for small flakes). When used with wired glass or in conjunction with wire mesh close to the inside surface of the glass or wood or metal battens touching the glass, weather protection is permanent. Applications to skylights of bitumen treated fabrics are equally effective. The methods of application and specifications for materials are given in the appendix.

VENTILATION

Adequate ventilation during the whole 24 hours of the day must be secured by some means because of its therapeutic importance. In the obscuration or replacement of windows, careful thought must be given to this object. Ordinarily, the air volume in the hospital ward should be changed at least six times an hour, and more frequently in hot weather.

Medical Corps

Nurses' Aides Corps

Drivers Corps

There are several methods by which this end may be achieved, but in many cases it may be necessary to adopt mechanical devices.

Suitable types of light traps for windows can be devised. These can be used whether glass is retained or replaced by a substitute. In a large ward, however, it is probable that natural ventilation of this kind will be insufficient to maintain the correct number of air changes. Some restriction of flow, probably as much as 50 per cent, is unavoidable, for ventilators of this kind lose a great deal by friction and give rise to eddy currents. The most satisfactory and simple method of obtaining additional ventilation is to install a large electric exhaust fan, preferably in one of the window openings from which the glass has been removed.

The air inlet to the exhaust fan must be suitably protected with a light lock, designed so as not to render the fan ineffective because of friction.

In basements where windows have to be blocked up entirely, mechanical means must be relied upon solely to provide adequate ventilation. In specially constructed operating rooms the adoption of an air-conditioning apparatus should be considered.

FIRE PROTECTION

Each hospital should develop an organization of fire watchers and auxiliary firemen competent to deal with any emergency except a major conflagration. Such a group should be so organized and trained that it can work not only as a group but also as individuals so that separate fires may be attacked as soon as discovered. Local fire officials, many of whom have received training in fighting fires caused by incendiary bombs, should be consulted in the organization and training plans of the hospital fire fighting staff.

A group leader responsible for training and activities should be in charge of the hospital auxiliary fire force. The leader should receive thorough training from the local fire department in methods of combating incipient fires. He in turn will train the auxiliary force of the hospital and select the stations to which its members are to report at the sounding of an air-raid alarm. Fire-watchers' posts should be established in such numbers and locations that all sections of the hospital are under observation and will have adequate (first-aid) fire protection. Particular attention should be given to the attic or loft areas. The unit leader should instruct all employees as to the fire-alarm system and evacuation drill. He should instruct members of the fire-fighting force in the methods of handling a hose line. Where chemical extinguishers are employed, their care and use should be explained and drills in their use conducted. He should be responsible for making regular inspection of attics, basements, wards, and storage places, to see that unnecessary accumulations of combustibles are removed and that exits are kept open.

Hospital records, though valuable, are a source of danger from the fire standpoint. They should be transferred to a place of storage away from the building, especially if they occupy space in the basement which is needed during wartime for other purposes. X-ray films are inflammable though they may not support combustion. Those not needed should be destroyed and the remainder removed to a place of storage at a safe distance from other buildings. Storage of gasoline, ether, alcohol, and other highly inflammable chemicals should be given special attention.

Special attention should be directed to the attic and upper floors of the hospital building to render them as fire resistant as possible. Several non-combustible materials have been tested for resistance against burning and heat from incendiary bombs. These can be used in loose or granular form to cover existing wood flooring or in sheet form to cover or replace it. Materials giving protection against burning by the two-pound magnesium incendiary bomb are listed as follows:

Material	*Minimum Layer Inches*	*Wt. per Sq. Ft. Lb.*
Dry Sand	1¾	13.5
Brick dust	1½	9.5
Slate dust	1¼	5.0
Foamed slag (ground)	2	5.5
Boilerhouse ash	1¾	6.0
Limestone* screenings (passing ⅛" screen)	1¼	10.0
Concrete (including cinder concrete)	1	12 or less

These substances may be spread over the attic floor or another joist area with a layer of ordinary chicken wire on a frame placed above the material. Whatever material is used, care should be taken to insure that the building will stand the added weight. Interior parts of the roof structure, walls, and joists may be covered with a fire-resistant plaster, as an added precaution. A coat of whitewash is of value. If the building will stand the additional weight, a 2-in. layer of sand or other material should be put on the roof if the roof is flat. It should be remembered that these loose materials will blow or wash away and increase in weight due to the absorption of water.

All areas where incendiary bombs may have to be combated should be made readily accessible. Two or more means of ready access should be available to attics and to roofs on which small incendiary bombs might come to rest. This applies particularly

**Carbonates stimulate the burning of magnesium and are not suitable for use in a removal bucket. They can, however, be used as a protective layer.*

to flat roofs, or sloped roofs with parapet walls against which a bomb deflected by the roof might lodge. Doors or passageways should be cut through all blind partitions to allow access to every square foot of area. Where partitions serve as fire cutoffs these openings should be protected by fire-resistant doors.

If it is necessary to store material in the upper floors of the building, it should be so arranged that a clear aisle or passageway sufficiently wide to accommodate portable fire-fighting equipment extends the length of the building with numerous cross passages or transverse aisles. The hospital should supply itself with fire-fighting equipment, which should be inspected frequently to insure its constant readiness for use. The following items of equipment are recommended:

1. 12-quart buckets of water and sand to be distributed throughout the hospital at each fire-watcher post and each station for auxiliary firemen.
2. Pump-can tank-type water extinguishers also to be located at each fire-watcher station and post for auxiliary firemen. These pump-tank extinguishers should be equipped with at least 12 feet of hose and a nozzle that will provide both a spray and a solid stream.
3. A garden hose equipped with quick coupling connectors to fit domestic faucets should be located at those stations near faucet outlets.
4. A long-handled, square-nosed shovel should be located at each fire-watcher station and at a majority of the auxiliary fire fighter posts.
5. While not absolutely essential, it is desirable to provide each fire fighter and each auxiliary fire watcher with heavy gloves and a type of face protector or protective goggles.
6. Each fire watcher should be furnished with a flashlight.
7. Fire axes should be located at readily accessible points throughout the hospital and several should be located at fire-watchers' stations on the roof.

Reports of British experience indicate that sprinkler systems are very effective in dealing with fires started by incendiary bombs. If a sprinkler system has been installed it should be maintained in good condition but should not be relied upon to the exclusion of other methods of fire fighting.

Magnesium-alloy Bombs

The magnesium-alloy type of incendiary consists of a magnesium-aluminum alloy tube or case which contains a priming mixture, usually thermit; the priming mixture melts and ignites the magnesium case which burns at a temperature of about 2400 degrees F. The bombs vary in size from about 2 to 50 pounds. The two-pound variety is most commonly used at present. They are designed to ignite upon impact. The bomb is about nine inches long and two inches in diameter.

Because of the limited power of penetration of smaller-sized magnesium-alloy bombs, they tend to lodge on the roof or upper floors of a building. They rapidly burn through the floor, because of the intense heat generated, dropping to the floor below. To control the fire and limit its spread, prompt action must be taken. The intense heat generated prevents the fire fighter from approaching the bomb very closely. To do so might be dangerous, especially for the first minute, because the priming mixture burns with such violence that a mass of sparks and molten metal may scatter for as much as twenty feet around the bomb. After the priming mixture has burned, the bomb can be approached and dealt with. The fire fighter should hold a table, chair, door, or some similar shield in front of him while fighting the incendiary.

The fire fighter must decide in each case whether to deal with the fire or with the bomb itself. If the fire has gained considerable headway, it should be brought under control at once. If it has not progressed appreciably the bomb should receive first attention. In the presence of large amounts of smoke, the fire fighter should keep his head as close to the floor as possible. It will usually take from five to six gallons of water to deal with the bomb alone so that ten gallons of water and preferably more should be available to control the bomb and the fire it has started. To control a fire around the bomb, a solid stream of water should be used though the solid stream of water should not be directed on the bomb itself. After the surrounding fire has been brought under control, the bomb should be attacked.

It is desirable when dealing with an incendiary bomb with a pump tank that there be at least two persons available, one to handle the hose and fight the fire and one to operate the pump tank. A third to keep up the supply of water at the pump tank by carrying buckets is highly desirable. However, two persons can manage, and even one person alone, if he tackles the job soon enough, may be able to extinguish the fire without assistance.

In combating a magnesium bomb, a spray of water is used. This does not extinguish the bomb, but causes it to burn more rapidly. The two-pound bomb will normally burn from ten to fifteen minutes, but

Decontamination Corps

Basic Insignia

when sprayed with water the burning time is reduced to two or three minutes. When the water is added to a burning magnesium bomb hydrogen is formed. This burns harmlessly if the water is added slowly in the form of a spray; but if a solid stream is used, the hydrogen is formed in such quantities that an explosion usually occurs.

Dry sand or earth in pails may also be used in combating magnesium-alloy bombs. The bomb should not be attacked until after the first minute, during which time the priming mixture burns itself out. A protecting screen, a chair, table, or other suitable object, is held in front of the fire fighter who approaches the bomb with a pail of sand and a long-handled shovel. About three quarters of a pail of sand is placed around and over the bomb with the shovel. This reduces the amount of heat given off and shields the dazzling glare of the burning metal permitting closer approach. It should be realized, however, that a bomb thus covered is not extinguished and will burn through a floor in a few minutes unless removed. The bomb may be scooped up in the shovel and placed in the sand pail. A 4-in. layer of sand should first be placed in the receptacle to prevent the bomb from burning through the bottom before it can be removed from the building.

Chemical Extinguishers

Carbon tetrachloride extinguishers should never be used on thermit or magnesium bombs as phosgene may be formed by reaction with the molten metal. Soda-acid and foam-type extinguishers are effective but no more so than water alone. Since it requires five or six gallons of water to deal with a single two-pound bomb, several 2½-gal. hand extinguishers would be required. Carbon-dioxide extinguishers have been found ineffective.

Thermit Bombs

Thermit consists principally of a mixture of powdered aluminum and iron oxide. This mixture when ignited reacts chemically to form molten iron which acts as the incendiary in igniting adjacent combustible material. The chemical reaction is very rapid and violent. As a direct incendiary agent, thermit is not as effective as magnesium alloy. A ten-pound thermit bomb expends itself in slightly less than a minute. The mass of molten iron set free burns itself through floors and ceilings very rapidly. The methods described for controlling the magnesium bomb will have little use in the case of thermit because of the short period of time required for the bomb to expend itself, and the spattering of burning material from the bomb. The auxiliary fire force should attack the fire with a regular hose stream and call the local fire department if necessary.

Phosphorus Bombs

A small explosive charge is usually incorporated in phosphorus bombs to scatter the incendiary agent, thus starting many small fires simultaneously in a number of places. White phosphorus ignites spontaneously in exposure to air. The pellets have a low combustion temperature and may set fire to easily combustible material, though ineffective on planks or heavy wood construction. The burning phosphorus may be extinguished with plain water since air is excluded. A copper-sulphate solution may be used as a spray on burning phosphorus particles, depositing a thin coat of copper phosphide over the pellet. Whether extinguished by water or chemical, all the pellets must be removed and disposed of by burning. If a pellet treated with copper is not removed, it may be stepped upon or otherwise abraded so as to fracture its surface and thus cause another fire. Care should be exercised in dealing with phosphorus because painful burns will result if it comes in contact with the skin and also because of the effect of systemic absorption. No alarm need arise from the intense white smoke produced by burning phosphorus. It may prove slightly irritating to the nose and throat but serious consequences will not result.

Multiple Effect Bomb

This is usually a large bomb containing many small incendiary units with the interstices between the units filled with phosphorus or oil. The large bomb usually penetrates the building after which the case is ruptured by an explosive charge which ignites and scatters the smaller incendiary units and materials. Each unit and material must be dealt with individually as previously described.

Oil Bombs

Oil bombs are usually composed of a solid inflammable oil such as aluminum stearate mixed with a highly combustible material such as gasoline or kerosene. The oils may be ignited by a small incendiary unit. Finely divided metallic sodium or potassium may be added to reignite the oil in case it comes in contact with water. Oil bombs are usually reserved for military objectives. Fires caused by oil bombs present the same problems as the ordinary oil fire in which the burning oil must be smothered with some non-combustible material such as steam, fine water spray, or foam while the fire beyond the limits of the oil is either smothered or extinguished with water. An oil bomb containing metallic sodium or potassium which burns or explodes may be encountered. The best method of dealing with such a bomb is to smother it with sand or let it burn itself out while keeping the surrounding area wet and allowing no water to reach the bomb.

Fire and Evacuation Drills

Every hospital should institute at once a system of fire and evacuation drills with practices held at frequent intervals. Certain considerations deserve special attention.

1. The frightening of patients by the ringing of alarms and the carrying out of drills must be avoided.

2. The hospital staff changes every eight or twelve hours and there must of necessity be trained forces for each shift of duty.

Audible alarms, where they may be disturbing to patients, should be wholly or partly suppressed during fire and evacuation drills. This may be accomplished by having an alarm system so designed that the signals will sound only in departmental offices, engine room, auxiliary fire-fighting stations, and other important central locations.

All exits from the hospital must be inspected to see if they are suitable for evacuation purposes. The doors should open outward and several exits should

Soldiers in Hawaii, working on the operating room of an underground first aid station.

be available lest some be blocked by debris. Such exits may be provided by the removal of windows at convenient points and replacing these windows with shutters. All exit openings must be large enough to accommodate stretchers easily and if patients are to be moved on mattresses, they must be sufficiently wide to accommodate a mattress.

In anticipation of the possible need for evacuation of a hospital, ambulatory and convalescent patients should be housed as much as possible on upper floors, the lower floors being reserved for wheel-chair and stretcher patients.

During the evacuation drills ambulatory patients when instructed to do so, put on dressing gowns and slippers, pick up their blanket, and leave the building. All the patients from one floor are accompanied by a single person. Patients in wheel chairs follow and patients on stretchers leave the hospital last, accompanied by attendants.

A nurse, orderly, or ambulatory patient should be assigned to each bed occupied by a wheel-chair patient in order that such patients may be helped from their beds to wheel chairs. Other assignments should be made to insure that there are sufficient persons to move stretcher patients. If long and sustained bombing is anticipated it may be necessary to nurse patients on canvas stretchers under the bottom sheet. Four or five strong canvas loops may be attached to the mattress so that it may be used as a stretcher.

No specific directions have been given in this section on the details of hospital evacuation and fire drills because such details must of necessity depend upon the structural characteristics of the particular hospital in question.

RESCUE SQUAD

A Rescue Squad should be organized within the hospital along the lines recommended in the Handbook of Rescue Squads, a copy of which may be procured from your State Defense Council. The squad should be composed of a leader and four or five members, all of whom should be from the service department and who understand utilities and construction. The utility repair squad discussed in a later section may also fulfill the responsibility of the Rescue Squad. The Rescue Squad is responsible for the extrication of persons from points of special danger. The members should also notify the police of the location of unexploded bombs, rope off the danger area, and notify the telephone switch board of the presence of the unexploded bomb.

AIR-RAID SHELTERS

The provision for complete protection for all patients and members of staff is seldom possible. Certain measures of protection have already been suggested, but actual shelter provision should be confined to the following groups:

a) Those who are working on essential services on which the functioning of the hospital depends, e.g., telephone operators, emergency operating-room staff, and certain key administrative officers, air-raid wardens, etc.

b) Nursing and domestic staff who are off duty.

c) A limited number of ambulant patients who can easily be transferred to shelter.

Bed patients should be moved into corridors away from the immediate vicinity of windows, and covered as far as possible with bed clothes, bed tables, and other materials that offer protection against splinters.

Shelters within buildings are readily accessible, can be made comfortable, and can be provided with the usual services.

The same sites previously discussed as being suitable for the housing of essential services within the hospital are also ideal for air-raid shelters.

Shelters within buildings should be well isolated from light and elevator shafts. Several small shelters are preferable to a single large one and not more than fifty persons should be assigned to any single shelter.

If an air-conditioning system is not installed, ventilation must be provided in some other way. The inlet for such a system should be not less than 25 ft. above the ground or other horizontal surface which might become contaminated by gas. Steam, gas, and water pipes and those carrying refrigerants should not traverse or enter the shelter because of the danger of fracture. The ideal heating system is electrical. If steam or hot water must be used to heat the shelter, valves should be so labeled that the most backward patient could manipulate them. If space is limited, shelves can be built around the wall to hold bassinets for babies and bunks with sides for small children. A barricade of chicken wire should be placed six inches from the wall to prevent the transmission of shock from the wall. Some provision should be made for hot drinks and emergency feeding. Drugs and dressings to be used in an emergency should be kept in the shelter under lock and key.

BLACKOUT

The blackout introduces the problem of preventing the egress of light, no matter how small and faint, which might be seen from the outside, and at the same time maintaining sufficient light for the performance of essential services within the hospital.

As already described, skylights and domes should be boarded over with timbers which have been fireproofed, or the glass should be protected by the bitumen-fabric treatment.

Shades and curtains already in use are not likely to be satisfactory for blackout purposes, since for a successful blackout they must extend at least six inches beyond the frames on each side and at the top and bottom. Any sort of black cloth which is opaque to light can be used, but this property should be tested not by daylight but by holding the cloth against a strong electric bulb to make certain that no light whatever shines through it. In addition to its property of opacity, the material should also possess durability, permanence of dye, mechanical strength, resistance to dampness, and preferably be noninflammable. The best kind of curtain is made in a single piece. It is hung on one side of the window in such a way that it can be drawn across from side to side without a parting in the middle. The free end can be fixed to the wall by snap fasteners. The other side is fixed permanently to the wall with a thin strip of wood. The upper edge is supported on a piece of picture wire.

Very large windows can be covered with strips of carpet stitched together and attached to a strong roller. If new shades or blinds are procured, they should be large enough to overlap the whole window opening by 6 inches on each side or be inclosed in box fittings. Tarpaulins should be kept in reserve as temporary covers to prevent exposure of light in the event that the existing arrangements are destroyed during a raid.

An additional blackout precaution is to paint an area about 12 inches wide around the window frame with matt black paint to minimize the reflection of light. A simple light trap can be constructed by using strips of beaver board or similar material 4 to 6 inches wide in the form of a box to guard against the escape of light through cracks above or around shades or curtains.

For rooms in constant use for administrative purposes it will often be more economical in the long run to provide well-fitting lightweight screens which can be removed in the hours of daylight.

Doors opening to the outside must be protected against the escape of light. While the use of double, windowless doors is sometimes feasible, the provision of a light lock is generally much more satisfactory. These are easily constructed, using either canvas or wood. Light locks through which patients are admitted must, of course, be large enough to take stretchers easily.

The interior of the hospital should be examined by night in order to determine what lights can be dispensed with entirely without loss of efficiency. Unnecessary bulbs should then be removed. Lights of reduced candlepower can be substituted for bright lights in corridors and other places where good lighting is not a necessity. The use of small bulbs screwed into baseboards should also be considered, and lights which can be dimmed by the use of resistance coils can be installed in wards and siderooms. Reduced intensity lights are now being commercially developed for blackout and may be used inside or outside of buildings.

Cylindrical tubing of tin or black cardboard, cut to the proper size, can be placed over unprotected bulbs to throw the light downward in a circle and prevent the rays from spreading. Desk lights should be provided with dark shades.

In accident rooms, where good light is essential, the blackout arrangements should be carried out with scrupulous care. Incandescent bulbs of low intensity properly hooded may be used. Direction signs can be marked by broad, heavily painted white stripes a few inches above the floor or street level.

It is desirable that lights be connected to group-control points so that they can be extinguished instantly in the event of damage to the premises causing exposure of lighting. These control switches should be located at convenient points throughout the hospital. As soon after the receipt of an air-raid warning as the necessary, prearranged precautions for protection, evacuation to shelters, etc., have been carried out, all lights, except those essential for the operation of the hospital, should be extinguished. The work required to complete blackout arrangements in a hospital is difficult and time consuming: hospitals should be in a position to complete their lighting restriction measures within a few hours' notice. The preparation of equipment

cannot be deferred until lighting restrictions take effect.

When lighting restrictions have been introduced, every window, transom, and door should be individually inspected, to be certain that the blackout is complete. The inspection should be carried on outside the building, by competent, reliable observers, who preferably have had nothing to do with the installation of blackout devices. The inspection must be carried out routinely and repeatedly, to be certain that precautions are not being relaxed. These tests made by the hospitals themselves are in addition to the surveys which will be carried out under the jurisdiction of air-raid wardens.

The State and Local Defense Councils will provide the general rules for blackout. These should be posted in conspicuous places throughout the hospital, and should be supplemented by such rules as the hospital authorities have made for the behavior of patients and staff.

UTILITIES

Although the maintenance of essential services is the joint responsibility of utility companies and the State and local defense authorities, the hospital must also share in this responsibility.

To assume this responsibility, the hospital should organize an emergency repair squad. Their duties should include shutting off illuminating gas, refrigerant, steam, and nonessential electric lines and making such emergency repairs as may be required to limit the damage or loss of a utility service. The dispatch of such a crew should be handled by the control office center within the hospital. Such a crew should be composed of a foreman and four or five men all selected from personnel normally performing the repair work of the hospital. This same group may serve as a Rescue Squad, the functions of which have already been discussed.

Most hospitals already have maps showing the distribution of their essential services, such as electricity, heat, water, telephone, and sewage. If maps do not already exist, they should be made promptly. Important valves, flanges, switches, etc., should be identified by special colors, preferably corresponding to the code of the American Society of Mechanical Engineers. The maps, code colors, and other essential data should be placed in several parts of the hospital and at least one person should be in the hospital at all times during the day and night who knows where they are and how to interpret them.

In the event of a breakdown of the essential utilities within the hospital every effort should be made to restore service as quickly as possible. It is the duty of the hospital to protect its own equipment as well as possible. Reinforcement of the walls and roofs, housing the engine room, sand-bagging the points of entrance and exit of pipes, drains, and cables, will be of value. Pipes should be valved at their point of entrance to the building. The telephone switchboard, which is especially sensitive to earth shock should be placed well away from walls which might transmit the shock and on the second or third floors of buildings of five or more stories.

Communications

The private branch exchange, such as is used in most hospitals, is often powered with batteries, but the entire telephone system within the hospital may be disrupted or destroyed. Boy and girl scouts can be used for carrying interdepartmental messages in the event the switchboard is thrown out of use and even before that time their services will relieve the congestion in the telephone room. Special messengers are needed for communications outside the hospital and arrangements for their services should be made through the communications officer at the District Control Center.

Electricity

The estimated peak demand of ½ KW per bed per day, half of which is for laundry purposes, may far exceed the amount of electric current which could be furnished in an emergency. It is rarely practical to maintain the X-ray department if the public electric supply is interrupted because of the difficulty in obtaining a generator of sufficient size. A supply of copper wire should be available for use in the emergency repair of disrupted power lines. If a power generator is to be procured it should provide sufficient current to supply:

1. Lighting for emergency operating rooms, essential corridors, control office, telephone exchange and reception rooms.
2. At least one elevator.

Even small power plants have been found adequate to maintain services of this extent for short periods of time. Auxiliary electric systems should be tested out once a week or at least once a month to ascertain whether they are in proper condition.

Provision for lighting at essential points should be made in case the auxiliary system is destroyed. Portable operating-room lights powered by individual batteries have proved satisfactory and many hospitals already possess them. Dry-cell batteries are subject to deterioration in periods of inactivity and British experience would indicate that for this reason the accumulator type of battery is to be favored. Candles are obviously dangerous, and though they should be provided along with stands, they should not be used except as a last resort. Employees should be supplied with flashlights, the condition of which should be checked periodically. The use of flashlights must conform to regulations.

Water

It would be well for hospital administrators to request the advice of municipal water departments as to how their water supply could best be protected and supplemented, and auxiliary supplies secured and maintained. In some instances this may be accomplished by tapping additional water mains or by other means. It is not feasible to dig wells because of danger of contamination from fractured sewers.

Hospitals should make plans for the conservation of water in event of emergency. A supply of paper eating utensils may be secured.

Because of the importance of the water supply for fire-fighting purposes, an interruption should be anticipated by storing water in bath tubs, and other suitable receptacles at the close of each day. More permanent storage would be desirable when it is necessary to conserve the supply.

Emergency rations for use in shelters and wards can be stored in bottles.

Heating Facilities

If the heating system is disrupted, the staff can be kept warm by wearing additional clothing and the patients by remaining in bed and using additional covers, or hot-water bags. Hot-water bags for this purpose may be improvised in most hospital workshops by cutting a discarded inner tube into sections, sealing one end, and incorporating a stoppering device in the other. Kerosene or gasoline heaters are unsafe because of the risk of fire and because of the danger of carbon monoxide gas, a danger which is accentuated in the presence of blackout.

If fractures occur in sewer pipes which are below the lowest point in the hospital, gravity will prevent flooding. So long as sewage will flow through them under such circumstances they should be used. If the fractured pipe is above the lowest point in the hospital the overflow will accumulate in the basement and other dependent portions of the building. The sanitary dangers imposed by a break in the sewage system are obvious. If prompt repair is not possible, such temporary measures as may be necessary for the protection of patients should be instituted. Evacuation should be a last resort, and would not generally appear to be necessary.

Every hospital should be supplied with latrine buckets which could be used in case of an emergency, one bucket being provided for every 50 persons. Pre-arranged plans for collection should be agreed upon with the proper public officials.

Garbage

It should be anticipated that in emergency conditions there would likely be an interruption of garbage collections. Garbage suitable for swine may be accumulated for their use subject to the regulations of the sanitary code. What remains should be incinerated. Hospitals which do not always have an incinerator should consider the advisability of securing one. Incineration must be carried out in such a way that it does not violate the regulations of the blackout. It may be advisable to consult the local or State Health Department in regard to emergency disposal of garbage. Burying, or hauling are possibilities.

FACILITIES FOR THE CARE OF CASUALTIES

Hospitals intended for the immediate treatment of air-raid casualties should organize facilities so as to provide the following:

Hospital Entrances

Clearly marked entrances and routes for walking cases, stretcher cases, and gas casualties.

Wherever it is possible separate entrances and approaches to the hospital should be provided for stretcher cases, ambulatory patients, and those suffering from the effects of gas. Gatemen posted before the hospital should direct the patients to their proper entrance. Where only one entrance is available the three types of casualties must be directed to separate admitting rooms, one for gas-contaminated cases, one for walking injured, and one for stretcher cases. If it is impossible to provide more than two admitting rooms, stretcher and ambulatory cases can be assigned to one and gas cases to the other. If only one admitting room is possible, no person contaminated with persistent gas should be permitted to enter unless the hospital is reserved for the care of those injured by persistent gases, in which case other types of casualties should be refused entrance.

The admitting entrance to the hospital should be as wide as is convenient and should at least accommodate an ambulance easily. To assist ambulance drivers working under the conditions of the blackout, the following markings should be applied with white paint to indicate the route to the admitting entrance.

a) Lines in lengths of one foot, with one-foot gaps on vertical structures such as trees and corners of buildings; and on horizontal faces of curbs at intersections, corners, and places where road widths alter abruptly.

b) A continuous white line down the middle of the drive. Arrows or other suitable markings should be used to indicate points at which ambulances are to stop and back to the reception platform. Similar white arrows should be used to direct ambulances to the exit.

Such devices, though suitable for lighted vehicles, will not serve to give directions to walking cases. Illuminated signs provided with approved hoods should be used to indicate both the entrance to the hospital, and the reception entrance for walking wounded and contaminated cases, respectively.

The Reception Room

In the event of an air raid it should be anticipated that patients will be brought to the hospital in large numbers. The reception room must, therefore, be commodious and so arranged that members of the staff can keep all the patients in it under continuous observation. In the larger hospitals it may be more efficient to provide separate rooms for males and females, but in small units this increases the number of staff required to handle patients to such an extent as to interfere with the operation of the hospital as a whole. In such cases separation by screens is sufficient if separate toilet accommodations are provided.

The reception room serves three main purposes:

a) As a waiting and observation room before distribution to operating rooms, wards, etc.

b) For making and checking records.

c) For the continuous supervision and sorting of cases requiring resuscitation or other forms of urgent treatment. This function must be carried out by an experienced physician.

Because of the nature of the work it is expected to perform, the reception room should be closely related to the resuscitation and transfusion rooms and to the minor surgical room.

Decontamination Rooms

The subject of chemical warfare is discussed extensively in *First Aid in the Prevention and Treatment of Chemical Casualties* and *Protection Against Gas*, published by the U. S. Office of Civilian Defense, copies of which may be secured from the State Defense Council. Decontamination stations operate most efficiently when well separated from the hospital. Even if this were attempted a certain pro-

portion of patients would be brought to the hospital in a contaminated state and it is therefore necessary for hospitals to make arrangements to accommodate them. The arrangements and the general description may be found in *First Aid in the Prevention and Treatment of Chemical Casualties.*

The arrangement of the decontamination station need not be elaborate but certain essential features must be provided. These include a room in which contaminated clothing may be removed and stored in bins, a second room where the process of decontamination can be carried out, and a third room where patients can be reclothed and temporary dressings applied to wounds. From this point patients should be sent to the minor surgical clinic, to the resuscitation room directly to a hospital ward, or such other disposition as may be indicated.

Attendants in the gas-decontamination room wear respirators, special gasproof gloves and clothing. Ordinary rubber gloves are not gasproof and should not be depended upon. These garments are awkward to work in, so that repeated rehearsals are necessary. Also they are likely to deteriorate, and inspection must be carried out at regular intervals. The ordinary gas mask furnishes effective protection of the lungs and eyes against every type of gas likely to be used by the enemy.

Bandage scissors provided for the decontamination room must have unusually large finger holes, to permit their use with the necessary type of gloves.

The ventilation of the decontamination room must be adequate to prevent the accumulation of gases in it. When the special emergency is over, everything in the room must be scrubbed with chloride of lime, the walls and floors must be hosed, and the room left open to the air for 24 hours or more.

Various methods have been devised by which those in the field can be taught to recognize and distinguish the various gases by their odor and general characteristics. However, the clinician, far away from the field of activity will frequently be confronted with the need for differential diagnosis on the basis of signs alone. It is essential that differential diagnostic criteria be formulated so that contaminated patients will not be admitted to the hospital and so that persons suffering from the effects of nonpersistent types of gases will not be subjected to decontamination procedures which might jeopardize their lives due to the great pressure under which physicians may be obliged to work in some of our large cities at such times. An accurate diagnosis cannot always be made after the superficial examination which patients may receive. A rule of thumb diagnostic differentiation may be made on the following bases:

1. Is the patient wearing a mask?

2. Is the patient breathing easily? (Patients wearing a mask will be breathing easily. Patients suffering from lung damaging gas cannot stand the restriction of respiration caused by a mask.) If the patient is breathing easily, treat as persistent gas. If breathing with difficulty treat as phosgene.

Operating Rooms

Operating rooms situated on the top floor with large windows and skylights are obviously unsuitable for use during air raids. It will be necessary to plan alternative rooms for use in the event of an emergency. Such rooms should be on the protected lower floors or in the basement. They should be as convenient as possible to the reception room. Taking into consideration the number of staff men who will be available to man them, the number of rooms provided should be in proportion to the number of casualties which may be expected. If it is anticipated that the period of emergency may be prolonged it may be worth while to consider the installation of an air conditioner. In any case proper ventilation should be provided. The emergency operating rooms should be large enough to accommodate two tables at a time. One anesthetist can then handle two cases.

Because of the high percentage of fracture cases among air-raid casualties, special provision should be made to expand the facilities for their accommodation. This may mean adding to the number of fracture tables and fracture beds already in the possession of the hospital. If the closed treatment of wounds is to be used this will further add the requirement for plaster tables.

Mortuary

Experience in air raids has indicated that the death rate may be 30 to 50 per cent of all casualties. While many of the victims may be pronounced dead at the scene of the incident and taken directly to the public morgue, many may reach the hospital in a moribund state and others may die after admission.

Those victims who die enroute to the hospital should be removed immediately to the mortuary on arrival. Because of the need for all available space to accommodate the injured, the mortuary should be in another building adjacent to the hospital if possible. Identification should, if possible, be made before the victim is transferred to the mortuary.

The importance of securing additional staff for mortuary work should be stressed. Nurses whose services should be devoted entirely to the care of the living should not be used to attend the dead. The work of identification, even in the wards, should be carried out by trained lay workers. Bodies should be properly prepared before being shown to relatives or friends. The Health Department will make the necessary arrangements for release of bodies.

The importance of postmortem examinations should not be forgotten and permission should be sought in all feasible cases.

Laundry

Usually it will not be practical to expand the existing laundry facilities of the hospital because of the expense involved and the difficulty in procuring the needed equipment. As it is difficult to determine the extent to which expansion of facilities may be required, it is usually more economical to utilize the services of commercial laundries. The capacity of the existing hospital laundries can be expanded by shortening the washing formula, though this should not be carried beyond the point of safety.

DISTRIBUTION OF PATIENTS TO WARDS

Wards should be opened as the need for them is demonstrated. Patients should be distributed to the

various wards by the admitting officer. To lessen the strain on the nursing staff, severely injured patients should be evenly distributed over several wards. It is particularly unwise to assign many burn cases to a single ward because of the nursing demands of such cases. A special ward should be reserved for obviously moribund patients for psychological reasons.

UNIT SYSTEM AND RESERVE STOCKS

The various departments of the hospital must anticipate the possibility that part or all of their working supplies may be destroyed or otherwise rendered unusable through accident. This applies to the pharmacy, emergency operating rooms, reception room, and delivery rooms. A plan should be prepared whereby operation could be carried out at some other location should its original location or part of its equipment be destroyed.

Such a plan would necessitate the maintenance of reserve stocks of essential items. Before additional supplies and equipment for this purpose are purchased a careful survey should be conducted to determine what equipment and supplies are on hand and what could serve as substitutes. Purchases should not exceed the anticipated demands of the hospital. It would be advisable to plan a program of this nature on a long-range basis, with purchases systematically spaced as funds are available.

Hospitals in the same community could profitably undertake such a program as a joint project, since it is unlikely that all of the hospitals of a community would be seriously damaged in an air raid. Such stores should include folding beds, mattresses, linens, blankets, and drugs which should be placed in a central depository and drawn upon as needed by the various members of the pool.

Beds

An adequate number of folding beds should be on hand so that they may be put up in the places determined at the time of the survey of the hospital. They should not be set up permanently until their need is demonstrated, but rehearsals should be carried out so that they can be set up rapidly when the need arises. Because of the number of fracture cases which can be expected among air-raid casualties it would be wise to increase the number of fracture beds on hand.

Linens

The amount of bed linen to be laid in should be in proportion to the increased bed capacity of the hospital and in addition should be sufficient to accommodate the work to be done in the reception and operating rooms.

Blankets

There is a very high incidence of shock among air-raid victims, and it will therefore be necessary to increase the stocks of available blankets. An adequate number should be on hand to meet the demands of the increased bed capacity, the work in the reception and operating rooms, and the number required for ambulance transport.

Food

A supply of nonperishable foods should be laid away in a special larder, preferably in a safe place in the hospital. The food in this larder should not be used except in case of emergency. As boxed or canned foods are used, they should be replaced by a systematic plan of rotation.

Because of the danger of contamination of food by chemical warfare agents, stores of food should not be kept in the open. If stored in warehouses, they should be placed on the upper floors where gas contamination is unlikely. Meat in cold storage is generally regarded as safe from contamination by gas. If it is suspected that food has been contaminated samples should be submitted to the Health Department for examination.

Fuel

Supplies of fuel should be accumulated to meet the demands of a possible emergency, taking into consideration the available space for storage of such material.

Drugs and Biologicals

Many drugs now in common use are likely to become scarce because the source of supply has been or may be cut off. Although the justifiable use of drugs should not be curtailed, unnecessary use should be avoided so as to conserve our limited supply.

Drugs which are likely to be needed in excessive amounts include the sulphonamides, morphine, tannic acid, gentian violet, sera of various type, particularly for tetanus and gas gangrene, oxygen, and the intravenous solutions, glucose and saline.

Because of the need for blood for transfusion (both whole blood and plasma or serum) due consideration should be given to desirability of establishing a bank within the hospital. It may be practical in some instances for a single hospital to serve as the collecting and distributing agent for a number of neighboring institutions. In any case, each hospital must have facilities for the storage of blood, or its products for transfusion purposes.

Other Supplies

The incidence of shock in air-raid victims emphasizes the importance of having an adequate supply of hot-water bottles and heat cradles.

Because wounds in air-raid victims are extensive and often multiple it will generally be necessary to increase the equipment needed to sterilize dressings, the number of dressing carts, and the supply of dressings on hand.

To care for the large lacerated wounds of the extremities so common in air-raid victims an unusually large store of plaster-of-paris bandages and splints should be provided. Additional oiled silk may be needed for the treatment of burns depending on the form of treatment to be followed.

Provision of special instruments for the operating room should be held to the minimum. Surgeons should be encouraged to improvise or to get along

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Other equipment which will probably be needed in excess of peacetime demands includes nasal catheters (for oxygen), BLB, or similar masks, and blood-pressure cuffs. It will generally not be necessary to purchase any extra sphygmonanometers although an additional supply of cuffs are needed which, left in place on patients under observation, can be plugged into the sphygmonanometer gauge as needed.

A reserve of parts which are likely to break down in electrical or plumbing equipment should be available.

Supplies of cigarettes and hard candy should be on hand in that part of the building to be used as an air-raid shelter.

A number of larger city hospitals carry a considerable quantity of apparatus and equipment which in time of war would be difficult to replace. In addition, such hospitals may be obliged to reduce their bed capacity and perhaps abandon operating rooms because of their exposed position. Their valuable supplies must be conserved, and it is suggested that they be transferred to safe areas or loaned to base hospitals affiliated with the central unit. Such equipment might include portable X-ray apparatus, microscopes, incubators, centrifuges, etc.

Stretchers

An increased number of stretchers will be required both to accommodate the increased number of stretcher patients brought in and as a reserve on hand so that ambulances need not be delayed while stretchers brought in by them are being unloaded. Stretchers which combine the features of durability, comfort, and low cost should be secured.

Radium

Special consideration must be given to the protection of radium, not only because of its financial and therapeutic value, but also because of the risk of its dispersion. The amount of radium possessed by any institution is usually small, and the containers in which it is kept are also small. The blast of high explosive bombs may hurl the containers to great distances making location difficult; or a container may be broken and its contents dispersed. In that event, the buildings and sites of dispersal would be unsafe for many years unless cleared by specially protected workers. Until then it would probably be safer to abandon them for the inhalation even of a small amount of radium (1/1000 mg.) may be fatal.

The first step in safeguarding the supply of radium is to make a census of the amount in each location. In wartime it would be safer to use radium in the form of radon, which could be prepared in an extra-urban area.

If possible, radium itself should be used only during daylight hours. Surface applications may be safely employed if a person is designated to remain with the patient and to remove the radium immediately and place it in storage in the event of an air-raid warning. If the application is made internally, the body of the patient would probably serve as an adequate shield.

Opinions differ as to how radium should be stored. Concrete buildings and bulletproof safes, with walls at least three inches thick, have been proposed but are not practical. Some hospitals in London have wells thirty to fifty feet deep, into which the radium is lowered and from which it is raised in a specially built, protected bucket. Whatever plan is employed, the radium should be kept in some place in which the risk of a direct hit is minimal. An underground storage place is best. Radium should be assigned to the custody of two or more persons properly instructed in the risks of its exposure and dispersion.

MORALE

Possibly the most important single need in a hospital during wartime is to make the entire staff comprehend that preparations must be made on the basis that an emergency is positively going to occur rather than that it is likely to occur. No opportunity must be lost of convincing the staff and the general personnel of the seriousness of the emergency which may arise, even though there is no present evidence of it, and of the importance of the preparations which must be made to combat it.

A well trained, conscientious staff makes for calm patients and averts the risk of panic in an emergency. Therefore discipline must be strict and unremitting at all times, and no laxity of any sort must be permitted.

Regular rehearsals must be carried out in every department. They should include the driving, loading, and unloading of ambulances in a blackout; stretcher bearing; fire drills and the evacuation of wards; working in the operating room and elsewhere in gas masks; working in the hospital generally in blackout conditions. Mobilization of Emergency Medical Field Units and field drills should be carried out weekly in association with extramural Reserve Medical Squads, Reserve Squads, and fire auxiliaries. These rehearsals should be serious from start to finish.

THE AMBULANCE ENTRANCE

As previously indicated separate entrances should be provided for the admission of walking wounded, stretcher cases, and gas cases. The ambulance drive should be so arranged that unnecessary turns are eliminated and ambulances may leave by another route. Unnecessary turns at the admitting platform should be eliminated.

Using a suitable plan, a barricade should be erected on two sides of the reception platform. The barricade must extend at least to the top of the door to the reception room. The barricade not only serves to protect those working on the platform but will also prevent direct access of blast to the reception room. A cover of heavy canvas extending from the hospital building to the top of the barricade will maintain blackout and permit sufficient light for unloading operations. Having discharged its load the ambulance should be furnished with a fresh supply of blankets and stretchers. Time should not be lost in transferring patients from stretchers brought by the ambulance to hospital stretchers.

As stretcher cases are brought into the reception room they should be placed as far as possible from the door to provide space for those to follow. Stretchers can be placed on trestles of such height

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(36 in.) as will make them serviceable as examining and dressing tables.

The ambulance used for the transportation of persons injured with persistent types of gas should be so constructed that the entire interior can be washed with a strong solution of chlorinated lime. If the patient's compartment communicates with the driver's compartment, it too must be subjected to the same treatment.

Fabric—Bitumen Treatment of Glass

The treatment is applied as follows:

1. Glass is washed as clean as possible and scoured when necessary.
2. A first coat of bituminous emulsion is applied by brush.
3. Within 10 to 15 minutes the fabric is laid on the glass and pressed into the coating.
4. After about 30 minutes a second coat of emulsion is applied, being well brushed through the meshes to bond with the first coat.
5. After not less than 24 hours a third (final) coat is applied.

The properties required in the bituminous emulsion are similar to those found in many, though not in all, materials of this type used in the building industry. It is necessary that the bond between the emulsion and the glass should not be readily destroyed by water, and this requires a restriction on the presence of free alkali as an emulsifier. The amount of filler present is also restricted. The emulsion must be sufficiently stable to be applied by brush. It must on drying give a film which provides adequate obscuration to interior lighting, which is sufficiently hard to hold the shattered glass in warm weather and which does not deteriorate on weathering. Bituminous emulsions of the type used for road work normally give a film which is too soft and lacks adequate obscuration power. The following test requirements should be met:

a) Drying time: The first coat when applied to a glass plate at a temperature of 60 to 68 degrees F. and relative humidity of 60 per cent to 70 per cent should become tacky within 15 minutes.

b) The thickness of the first coat should correspond to an application of not less than one gallon to 8 square yards. Sealing and final coats should become appreciably dry to touch within 4 hours.

c) Alkalinity: A drop of emulsion, diluted with an equal volume of distilled water, should be placed on a white glazed tile, with a glass rod. One side of this drop should then be touched with a rod dipped into a phenolphthalein solution (1 per cent in absolute alcohol). There should be no red coloration.

d) Filler content: The amount of filler present should not be greater than 12 per cent by weight of the nonaqueous part of the emulsion.

e) Softening point of dried film: The softening point (ring-and-ball method) of the bituminous material left in a dried film should not be less than 125 degrees F.

The fabric recommended for use is oznaburg (cotton) weighing not less than 3 oz. per square yard and should permit ready penetration of the emulsion. The fabric should be rotproofed by a suitable copper treatment. If the material shrinks appreciably on wetting, it should, before use, be wetted with water or diluted emulsion and applied in a damp condition.

In applying the fabric: Lay the fabric in full width down the panels, carrying it over the glazing bars and the sides of the sash and sticking it to them. Adjacent sheets should be overlapped 4 in.

While the fabric-bitumen treatment of glass in skylights and domes will usually be sufficient to hold the glass in place at the instant of explosion there will be a subsequent tendency for broken fragments gradually to become detached and fall into the building. This effect will be most serious in warm weather when fall of glass fragments may occur within a few days after fracture. To prevent this it is desirable that additional support should be given to the glass on the underside.

Supports should preferably take the form of cross bars fitted between the glazing bars. They should touch the glass and be reasonably rigid, spaced not more than two feet apart. Supports should not impose any excessive side thrust on the glazing bars.

Wired glass which is treated with fabric and bituminous emulsion will, when cracked, have a considerable measure of support from the imbedded wire mesh. With other types of glass, however, wire netting (½-in. chicken wire) should be provided beneath the whole area of glass in the dome or skylight in addition to the supporting cross bars. It will usually be convenient to fix the wire netting between the cross bars and the glass so that it is held in close contact with the glass. Special care must be taken to secure the netting at the top and bottom of each sheet of glass.

Roof glazing treated as described and supported by cross bars and wire netting underneath, or with cross bars only in the case of wired glass, is likely to remain effective for weather exclusion and obscuration for many months after the glass is fractured.

Dr. William Cutter Dies

The death of Dr. William Dick Cutter on Jan. 22 is a lamentable loss to hospitals, as well as to the field of medical education. In his position as secretary of the A.M.A. Council on Medical Education and Hospitals, since 1931 he had been active in the hospital approval program of the A.M.A. and its furthering of high professional standards for hospitals.

Dr. Cutter's death from coronary thrombosis, while visiting his daughter in Johnson City, Tenn., occurred less than a month before the Chicago Congress on Medical Education and Licensure (Feb. 16, 17), whose program he prepared annually. This year he left in the midst of his plans, which were taken up by others in the office, including Dr. F. H. Arestad, who was selected acting secretary of the council.

Among many other activities in the course of his professional career, Dr. Cutter was dean of New York Post Graduate medical school and the U. of Southern California's school of medicine.

HODGE PODGE

Random notes of this and that gleaned from hither and yon, to give a lighter touch to more serious affairs.

by
HARRY C. PHIBBS

THE war news has popped the Netherlands East Indies into the public eye. And the Netherlanders in the East Indies have been doing their indomitable share to warrant front-page mention in the war news.

It took wars and invasions to make us realize the importance of this oriental holding of the canny and adventurous Dutch. For all their importance in this and other wars, we don't know a great deal about the Hollander. We have a vague idea that the mother country of the Dutch is a little land reclaimed from the sea by dikes; where the people wear quaint costumes; where canals bisect the country so that the brown-sailed boats seem to be gliding over green fields; where they have a lot of windmills, and there is a tradition that a little boy one time stuck his arm in a dike to plug a leak.

But the Dutch loom larger than that in history, exploration and colonization. They began getting their reputation as tough fighters as far back as the time when Julius Caesar was a dictator, and his legions met a Gallo-Celtic people in the Insula Batavorium who were such sturdy lads that the Roman legions were not able to conquer them. So Caesar made them *socii* or allies. It is noteworthy that the name has survived and an island of Batavia is again being besieged.

Holland has a most warlike history, especially during the time the Spaniards overran Europe and the Bloody Duke of Alva brought fire and sword to the fertile flat-lands bound by the dikes. The Dutch organized under Silent William of Nassau, Prince of Orange, and although out-numbered and out-gunned, they handed the Spaniards quite a pretty shellacking.

Spain sent an armada to conquer them, but the Sea Beggars of the Zuyder Zee, in their little boats, set the Dutch tradition of sinking an enemy ship a day, and the Dutch admiral named Van Tromp chased the Spanish ships into English waters and sunk them. Afterwards, as a token that the Dutch swept the seas, he always carried a broom at his masthead.

These Lowlanders have always been great mariners and most of our English seafaring words come from the Dutch: *ship, skipper, boom, larboard, starboard.*

And even while they were fighting bloody wars with the Spaniard, their far-sailing, broad-beamed boats were making long voyages to the Spice Islands, by way of South Africa and as far as Japan. To organize these adventurous tradesmen, the Dutch East India Company was formed in 1602, and began setting its trading posts and colonies from Cape Horn to the China Sea. And wherever the Dutch went, they left thrifty, prosperous settlements. They put a colony in South Africa—the forefathers of the present Boers. They built the town of Batavia in Java.

To avoid the difficulties of Spanish attacks, they thought to find another way to the Spice Islands—a northwest passage—and one of their expeditions was headed by a Hendrik Hudson, who sailed up the Hudson River, thinking this might lead him to the wealth of the Indies. It didn't, but it put a settlement of Dutchmen in New Amsterdam that is now called New York, with a fort at Prince Orange which is now called Albany. And from the tip of Manhattan all up through the Hudson River Valley you can still hear the names

Model of an old Dutch trading vessel in the collection of The Adventurers Club, Chicago.

these lads left to our generation—the Van Rensselaers, Cortlands, Coarlears, Stuyvesants—and two of the ilk became presidents—the Roosevelts.

At one time this "Company of the Distant Seas" had 150 trading ships, 40 warships, 10,000 soldiers—and paid a dividend of 40 per cent.

Wars and revolutions played havoc with some of the Dutch colonies. The English took New Amsterdam and made it New York. The colony in South Africa became an independent republic, but they hung onto the East Indies and kept one little island in the West Indies—Curacao.

The French Revolution upset the government of the Dutch Stadtholder and the country became a republic after the French pattern. But Waterloo upset the dictator Napoleon and the Dutch went back to being a monarchy. This monarchy included the Belgians as well as the Hollanders, but because of religious differences, the two peoples did not get on so well, and the Belgians pulled away to become a kingdom of their own.

The Dutch went on to further financial successes under William III, whose capable daughter, Wilhelmina, still rules in exile. For her kingdom is not just Holland but the widespread trade-breeding, well-run colonies where the indomitable Dutch are still showing the world how to fight aggression.

Americas Plan Medical Cooperation

The Americas will have a fine medium for scientific cooperation and exchange in the new Finlay institute to be established at the University of Havana.

A primary function will be to foster research and education in tropical diseases, and increase the exchange of scientific students and teachers.

Substantial grants have been made by private donors in the U. S., and the Cuban government will provide $20,000 annually for maintenance.

Mr. Basil O'Connor, president of the National Foundation for Infantile Paralysis, is president of the executive council, and Dr. James E. Paullin, president-elect of the A. C. of S., heads the Scientific Advisory committee for the U. S.

• •

New Government Hospital in Kentucky

Darnall General hospital—title by which the hospital just leased by the war department in Danville, Ky., will be known—is named for the late Brigadier General Carl Rogers Darnall, who was well known to hospital and medical folks during the last World War.

The late General Darnall (he died in Washington, D. C., last year) won the Distinguished Service medal for organizing and administering the supply division of the medical department. He was also credited with originating the use of chlorine in water, when a chemistry professor at the army medical school. He was assistant surgeon general from 1929 to 1931, when he retired.

• •

Chicago's T.B. Dispensaries Close for a Week

Employees of Chicago's T.B. sanatorium dispensaries had an enforced vacation, starting December 31, because of a fund shortage. By Jan. 7 they were back on the job again—all 80 nurses, 6 doctors and other employees—with the assurance that their salaries would be paid and their jobs go on. Nine dentists on the staff did not return, however, as no funds for this purpose were then available.

Why your Red Cross now needs

FIFTY MILLION DOLLARS

Every dollar that you give now to your Red Cross marches into the thick of things where humanitarian help is needed most—up to the fronts and battle stations where the fighting is heaviest. And throughout our broad land to train and equip volunteers to meet any emergency that may strike.

How this War Fund is Used

SERVICE TO THE ARMED FORCES $25,000,000

Provides for the care of the Army and Navy, including services to men in hospitals and during convalescence. • Provides an important link between the service men and their families. • Provides essential medical and other supplies outside of standard Government equipment. • Operates Red Cross headquarters at camps and naval stations. • Enrolls blood donors and medical technologists for Army and Navy needs. • Provides millions of surgical dressings, sweaters, socks, etc. through volunteer workers.

DISASTER AND CIVILIAN EMERGENCY RELIEF . . . $10,000,000

Supplies emergency needs for food, clothing, shelter and medical attention for disaster victims. • Assists stricken families in repair of homes and other adjustments; provides minimum reserves of essential relief supplies to prevent unnecessary delay.

CIVILIAN DEFENSE SERVICES . . . . . $ 5,000,000

Trains volunteers for home nursing and nurses' aides. • Trains nurses, men and women, for active duty with the Army and Navy. • Trains volunteers in First Aid and accident prevention, in Motor Corps, Canteen and Production. • Organizes for evacuation of children and their families from stricken areas. • Assists Red Cross Chapters in establishing effective coordination of emergency relief.

SERVICE AND ASSISTANCE THROUGH CHAPTERS . . $ 4,000,000

Gives assistance and service to the 3,740 Red Cross Chapters with their 6,131 Branches responsible for local Red Cross activities.

OTHER ACTIVITIES AND CONTINGENCIES . . . . . $ 6,000,000

New activities made necessary by unexpected developments.

TOTAL $50,000,000

THE AMERICAN RED CROSS $50,000,000 WAR FUND

Note to Red Cross Canvassers: Use this material to better inform contributors how their donations are being expended.

This space has been donated free to the American Red Cross by Hospital Topics and Buyer

FACTS ABOUT FOOD

General news about research facts, and what's going on in the field of nutrition.

We Still Have Spices

The hospital dietary does not look to spices for palate-tickling, but the American housewife, who will have to exert her efforts to make low-cost dishes more attractive, is relieved to know the government says there'll be no dearth of the more common condiments.

There's pepper, for instance. We use about 14,000 tons a year—two or three kachoos, even for Paul Bunyon—but we have on hand enough for a three years' supply, and it's still coming through from the Netherlands Indies.

We used to depend on England and the Continent for mustard, but last year, we produced more than we ever imported. Mexico is substituting for the Mediterranean countries in producing a number of our household condiments, and paprika now thrives in California and Louisiana.

• •

Nutrition and Geriatrics

The octogenarian, in birthday interviews with the press, is apt to assign the length of his years on earth to a lifetime addiction to snuff, to a quaint but persistent refusal of spring water, or a healthful hesitancy to feud with one's mother-in-law.

Contrary to such findings by the feature-minded press, Dr. John B. Fitts, of Atlanta, Ga., in his scientific survey of the food habits of 100 oldsters, found them to be free from fads as a whole. They ate a more or less modern-day diet, with adequate protein, carbohydrates and fat, but more calcium and phosphorus than many of the rest of us, due to the quantity of milk consumed. All but two ate vegetables, the majority ate meat once or twice daily. Eighty-three ate cereals, 17 ate none.

Dr. Fitts, speaking before his state Nutrition committee meeting (reported in *Medical Times*), concluded that probably the real secret of their old age lay in the inimitable advantage they took in choosing to be born between the years of 1835 to 1860. This means they spent the first five decades of life in an era when the food quality of the country was mayhap at its best . . . no white flour, white sugar, white rice . . . but an abundance of coarsely ground whole grains, and foods grown in ground all undepleted as to the quality of its minerals.

Incidentally, this group was predominately lighter in weight, averaging about 135 pounds. And speaking of heredity, 22 had one parent who had lived to the age of 80.

• •

About Camels

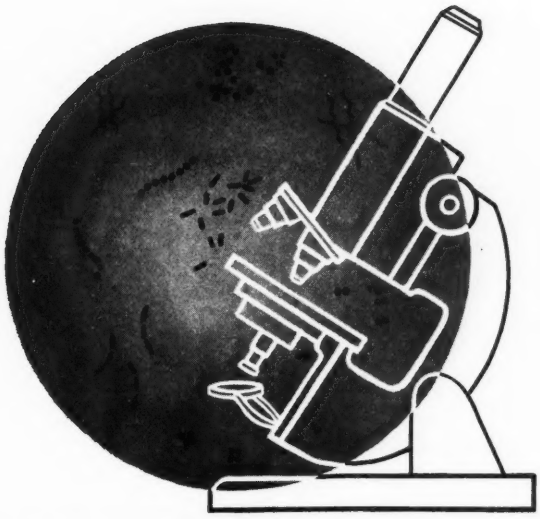
In case you'd like to know: there are about 4,000,000 camels in the world, according to a book about these animals by I. Leitch, of Scotland's bureau of animal nutrition.

The dietetic angle of interest is the high quantity of Vitamin C in the camel's milk, while that of most mammals is poor in this vitamin. It's a good thing for the natives of East Africa—it's why they can live on so few fresh fruits and vegetables, yet stay free of deficiencies.

• •

Established: Foundation for Food Research

To promote American health, as part of the war effort, a Nutrition Foundation has been established by 15 leading food manufacturers. Nearly $1,000,000 has been raised



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Here is a substance with lethal action "focused" on bacteria—with high selectivity providing potent bacteriostatic and bactericidal properties and an absolute minimum of injury or irritation of the body tissues in germicidal concentrations.

FURMERANE

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Highly recommended for management of clean or infected wounds, skin sterilization and numerous other uses for which a germicidal is needed.

Supplied as:

Furmerane Solution....1:3000—4-oz., pints and gallons
Furmerane Tincture....1:400 —4-oz., pints and gallons
Furmerane Ointment..1:3000—¾-oz. tubes and 1-lb. jars
Furmerane Nasal Drops with Ephedrine....1-oz., 4-oz., pints and gallons

We shall be happy to forward literature and samples on request.

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toward support of this project which, operated on a nonprofit basis, will distribute freely discoveries in food and diet.

The Foundation head is Dr. Karl T. Compton, president of the Massachusetts Institute of Technology.

• •

Thanks, Mr. Adams

Re: our *Hospitalics* item last month telling about the Canadian railroad men who taxed themselves for their profanity, turning the funds over to war relief, we have this interesting annotation from Cabot Adams, editor of *Publications Digest.* He writes:

In the port of La Guayra, Venezuela, there is a church yclept "Iglesia de la Santisima Carramba" which being freely translated is "The Church of the Most Holy Damn."

Tradition hath it that a local parish priest, intent upon discouraging the use of profanity by his flock, instituted a system of fines imposed on those who indulged in the habit. Naturally the church's chief source of revenue was found among the habitues of the waterfront, whose language was picturesque, to put it mildly.

The church edifice was built from funds thus gathered. The baptismal font is said to be the happy result of such fines collected from men who were unloading a freighter and gave vocal vent to their displeasure when a molasses cargo exploded and drenched them with sticky sweetness.

• •

Indiana Recommends Good Neighbor Policy

Does a state board of health located on the state university campus have an advantage? Yes, say Indiana officials, whose bureau has had official residence at the Indiana University medical center for the past two years.

Close coordination of the health department with the teachers and specialists at the center, as neighbors, has helped widen the scope of activities, and the civilian and military health program for defense has been one project to benefit, members of the University Hospital Executives' council were told recently.

Minnesota was the first state to have such an arrangement for these facilities. Iowa was the second.

Meeting Calendar . . .

Feb. 20-21, Arizona State Hospital association, Phoenix
Feb. 22, North Dakota Hospital association
Feb. 26-27, Texas Hospital association, Houston
March 11-13, New England Hospital assembly, Boston
March 20, Louisiana Hospital association, Shreveport
April 8-11, Tennessee Hospital association, Memphis
April 9-11, Southeastern Hospital conference, Memphis, Tenn.
April 9-11, Georgia Hospital association, Memphis, Tenn.
April 13-16, Association of Western Hospitals, Seattle, Wash.
April 15-17, Pennsylvania Hospital association, Pittsburgh
April 16-18, Carolinas-Virginia Hospital conference, Richmond
April 21-23, Ohio Hospital association, Columbus
April 23-24, Mid-West Hospital association, Kansas City, Mo.
April 23-24, Kentucky State Hospital association, Louisville
April 27-29, Iowa Hospital association, Des Moines
May 6-8, Tri-State Hospital assembly, Chicago
May 6-8, Michigan Hospital association, Chicago
May 7-9, New Jersey Hospital association, Atlantic City
May 11, Mississippi Hospital association, Jackson
May 12-16, South Dakota Hospital association, Sioux Falls
May 20-22, Hospital Association of New York, Buffalo
May 22, Greater New York Hospital association, New York City
June 8-12, American Medical association, Atlantic City, N. J.
June 15-19, Catholic Hospital association
June 28-July 3, Institute on Hospital Purchasing, Ann Arbor
Oct. 9-11, American Protestant Hospital association, St. Louis
Oct. 12-16, American Hospital association, St. Louis
Nov. 11-12, Kansas Hospital association, Wichita

A. C. of S. Changes Meeting Place for Clinical Congress

Instead of meeting in Los Angeles next Oct. 19-23, the American College of Surgeons has decided to hold its clinical congress in Chicago. Chief subject under discussion: war problems.

WHEN you requisition Lysol, be sure that you don't permit any one to palm off an inferior substitute on you. Remember it isn't Lysol unless it bears the name of Lehn & Fink.

Why it pays to insist on Lysol

1. Lysol is effective—phenol coefficient 5. Kills all kinds of microbes that are important in disinfection and antisepsis.

2. Lysol is non-specific—effective against ALL types of disease-producing vegetative bacteria. (Some other disinfectants are *specific* . . . effective against some organisms, less effective or practically ineffective against others.)

3. Lysol is economical—can be diluted 100 to 200 times and still remain a potent germicide. (In bulk, Lysol costs only $1.35 per gallon—when purchased in quantities of 50 gallons or more.)

4. Lysol is harmless to rubber gloves, sheeting.

5. Lysol helps preserve keen cutting edges of instruments—when added to water in which they are boiled (0.5% solution). Prevents corrosion.

6. Lysol is efficient in presence of organic matter—i.e., blood, pus, dirt, mucus, etc.

BUY LYSOL IN BULK

HOW TO ORDER LYSOL IN BULK

The sale of Lysol in bulk for institutional purposes is restricted to the following hospital supply organizations:

AMERICAN HOSPITAL SUPPLY CORP.
1086 Merchandise Mart, Chicago, Ill.

•

ECKHARDT PHYSICIANS & SURGEONS SUPPLY COMPANY
Littlefield Building, Austin, Tex.

JAMISON SEMPLE COMPANY
419 Fourth Ave., New York

•

STONE HALL CO.
1738 Wynkoop St., Denver, Col.

•

STRIEBY & BARTON, LTD.
912½ E. Third St., Los Angeles, Calif.

SURGICAL SELLING COMPANY
139 Forrest Avenue, N. E.
Atlanta, Ga.

•

Address inquiries regarding orders, shipments, etc., to any of the foregoing distributors or direct to

LEHN & FINK PRODUCTS CORP.
Hosp. Dept. H.T.B.-242
Bloomfield, N. J., U. S. A.

Copr. 1942 by Lehn & Fink Products Corp

PRESCRIPTION PAD

Notes on new pharmaceuticals, new drugs, new methods. A page for the hospital pharmacist.

Prolonged Local Anesthesia

Quite frequently, particularly in anorectal conditions, it is desirable to administer a local anesthetic agent which will last for days.

The administration of the local anesthetic in oil is the answer to the problem. Zylcaine (Abbott) is a combination of local anesthetics in oil, which may be injected painlessly.

The technic of injection is important. The ampoule is warmed to body temperature, and the Zylcaine is withdrawn into a warm dry 10 cc. syringe. The skin is thoroughly cleansed, and an intradermal wheal is made with procaine solution. Through this, the Zylcaine is injected slowly ahead of the advancing needle into the deeper tissues. Care must be taken to avoid injecting into the skin or anal wall. After injection, the area is massaged gently to assure even distribution.

Among the indications for Zylcaine are anal fissure, pruritus ani, minor rectal surgery, anal spasm, hemorrhoidectomy, and the control of postoperative pain.

• •

X-Raying Body Cavities

Roentgen visualization of contrasting tissues such as bone present little difficulty. When it comes to such areas as the sinuses, uterus or bronchial tree, however, the problem becomes more difficult.

The injection of an iodized oil into these cavities serves two purposes: it provides a strong contrast medium for x-rays, and it is highly effective in treatment because of its high specific gravity.

The improved iodized oil, Iodochlorol, is remarkably efficient for both purposes. It is very stable, and does not irritate the tissues. Being American-made, it is readily available and economical.

Iodochlorol is primarily indicated as a radiopaque diagnostic medium, and is particularly employed in the investigation of a variety of pathologic conditions involving the following organs: sinuses, bronchial tree, fistulae, cysts, uterus, fallopian tubes, salivary glands and spinal cord. Therapeutically, it is valuable in bronchiectasis and related cavity infections.

Iodochlorol is a product of G. D. Searle & Co., and is available in 20 cc. vials.

• •

Safe Antacid Therapy

A non-constipating alumina gel for the treatment of peptic ulcer, gastric hyperacidity and related conditions is now available under the name Gelusil.

The alumina gel of Gelusil is prepared by a new process of activation which enables it to produce the desired effect without forming the soluble chloride salt. It remains insoluble throughout the entire intestinal tract, and retains its high adsorptive capacity.

In addition to this specially prepared alumina gel, Gelusil contains the well-known antacid magnesium trisilicate. The product is not constipating, and reports indicate that it is very effective as a therapeutic agent.

Gelusil is prepared by William R. Warner & Company.

• •

The Bowel in Convalescence

Most hospitalized patients suffer from constipation for varying reasons. The postoperative patient is usually on a light diet, which is low in residue, thereby leading to constipation. The patient who is recovering from a febrile condition is often dehydrated, which means that there is insufficient liquid for normal elimination. All patients, being inactive, have difficulty in obtaining regularity.

To correct constipation without irritating the delicate mucosa by drastic evacuants is

the aim of therapy. Mucilose accomplishes this aim, by supplying soft bulk and controlling the "water-balance" within the bowel. Mucilose, taken with water, is ideally suited for treatment during convalescence, as it does not irritate.

Mucilose is a product of Frederick Stearns & Company.

THEY SAY THAT...

On the morning after "Pearl Harbor" I could not help but think of our past state president, Dr. Olsen, head of Queens' hospital in Honolulu, and the part he and his hospital were assuming in the attack. How little did he think as he sat in the secretary's office a year ago that his hospital in such a short time would be called on to serve so many war casualties within such a short space of time. So we, too, the hospitals of Minnesota, must be ever alert to a major catastrophe at our doors, such as a fire, train wreck, cyclone, explosions, bombing. We must be ready.—*Minnesota Hospital.*

If an administrator serves as medical director as well as supt., his general medical knowledge must at least be on a par with the best men on his resident and visiting staff. He must be entirely conversant with the administration and problems of nurses' training, and the securing of efficient nursing care for his patients. He must be able to handle his employees in such a manner that they will be sold on his program and work tooth and nail for it. —CLARENCE G. SALISBURY, M.D., *Director, Sage Memorial Hospital, Ganado, Arizona.*

The formal procedure for purchasing on a "bid basis" is usually quite simple and entails little or no extra expense, but definitely lends itself to more careful purchasing. If practically and honestly applied with common sense, there will result competitive prices and price savings, more frequent allowances for quantity purchases and improved delivery service, the eliminating of disputes with suppliers, and assurances of definite and higher standards of quality.—EARL C. WOLF, *Director of Purchases, St. Mary's, Rochester, Minn.*

New Traction Reel Overcomes Disadvantages of Pulley Systems

The new Herzmark-Adams traction reel is notable because it overcomes the disadvantages of the pulley and weight arrangements now used, its manufacturers point out. There are no cumbersome accessories, and it is easy to set up on any rigid frame. The degree of traction can be accurately adjusted with no loose or swinging parts, and since it remains practically constant, even when the patient moves or when beds are made or moved, it is particularly adaptable for army or navy work, where patients are transported on such moving carriers as stretchers, ambulances, trains, planes or ships.

The apparatus can be used for all types of traction, including skin, pin, skull, overhead traction from a frame and counter-traction. It utilizes a power spring and gear arrangement for varying degrees of traction from one to 20 pounds, with a scale showing pounds used. It is easily operated by a removable handle, and once set, visitors cannot change the adjustment.

This small, lightweight self-contained unit is manufactured by the Clay-Adams Co., Inc.

• •

Here Are Your Answers

(See Page 14)

1. From 30 to 50%.

2. There are seven: demolition bombs, fragmentation bombs, gas bombs, incendiary bombs, armor piercing bombs, aerial mines, aerial gunfire.

3. "To make the entire staff comprehend that preparations must be made on the basis that an emergency is positively going to occur, rather than that it is likely to occur."

4. They require strengthening to carry a load of from 200 to 400 pounds per square foot.

5. From three to eight times as many dressings, because of the extensive multiple wounds.

6. Properly carried out, sandbagging gives substantial protection, but the upkeep is considerable, and the OCD office says it should be regarded as a temporary expedient, to be replaced soon by a more permanent reinforcement.

7. It must be so constructed that the entire interior can be washed with a strong solution of chlorinated lime.

8. No, for it may cause phosgene to form.

9. Use of fireproof paint (aluminum silicate base), whitewashing and asbestos sheeting.

CLINICAL NOTES

by
J. F. FLEMING, M.D.

Each month this department will contain highlights from original sources or from current medical literature of special interest to hospital people—Superintendents, Interns, Nurses

Arteriosclerosis Not Necessarily Due to Age

Although hard arteries are considered a by-product of old age, there is evidence to show that the process of growing old need not cause the disease.

Dragstedt, of the University of Chicago, believes that arteriosclerosis may be prevented by proper dietary measures.

The diet suggested is low in fats, and the hormone lipocaic is employed. Animal experimentation and human observations indicate that hardening of the arteries is a degenerative process resulting from glandular deficiency and a high fat diet.

The relationship between diabetes and arteriosclerosis is also interesting. The two conditions are frequently encountered in the same patient. Due to the fact that both insulin and lipocaic are pancreatic hormones, it is easy to see why these two diseases are so often seen together.

• •

Relief of Labor Pain Without Ill Effects

The aim of the obstetrician is to find a form of medication which will reduce or eliminate the pain accompanying labor without causing a prolonged labor or other side effects on either the mother or the child.

In the *Rocky Mountain Medical Journal*, January 1942, Slaughter, Siever and Martinak report their results with morphine-prostigmin. With this combination, the dose of morphine is small, yet the relief of pain is as complete as when a larger dose is employed alone. Also, the relief thus obtained came on quicker than when morphine alone was used.

In the series of cases in which "M-P" was given, all the babies accomplished successful respiration before complete delivery from the birth canal. There were no cases of even partial cyanosis.

The absence of untoward effects on the mother was also observed. Respiration was reduced only one count per minute, as against six with the control group. Postpartum urinary retention was definitely reduced in the M-P series of cases.

The routine used was as follows: 1½ grains of seconal was given by mouth at the time of complete effacement and the dose was repeated at 2 cm. dilatation. At 4 cm. dilatation ⅛ grain of morphine plus 1/130 grain of prostigmin methylsulfate was administered hypodermically and repeated as required to keep the patient completely asleep between pains.

• •

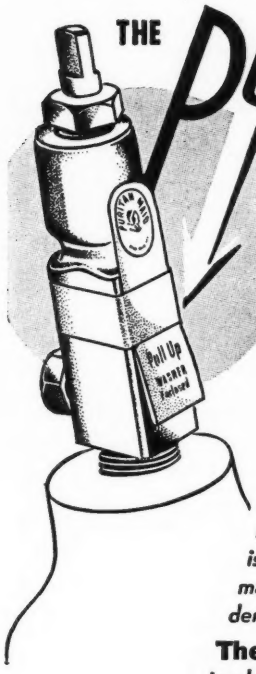
Drug Relieves Impaired Hearing

Rosenthal, of New York, reports on the use of prostigmine in thirty cases of impaired hearing. The report appears in *Archives of Otolaryngology*, September, 1941.

Of the series, 19 showed improvement in hearing; 16 showed subjective improvement; and only 9 showed no improvement. In addition to relieving the loss of hearing, the drug improved tinnitus. Sixteen of the 19 patients who had complained of this symptom said that it had diminished or disappeared. In the other three there was no improvement noted.

Eleven of the patients showed objective improvement of hearing in all frequencies.

The author concluded that prostigmine seems to have a definite value in impaired hearing of short duration and in some forms of tinnitus aurium. Patients with chronic deafness show a smaller degree of improvement.



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for Gas Machine Orifices

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The Puritan Valve Seal Also *holds in place a washer which is packed in a protective container---Serves as a positive indicator that the cylinder has not been used as long as it remains unbroken.*

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PURITAN DEALERS IN MOST PRINCIPAL CITIES

PERSONALLY SPEAKING...

BURGOYNE, DR. BERT R.—Appointed supt. of South Mississippi Charity hospital, Laurel, Mississippi (See Butler).

BUTLER, DR. JOHN C.—Resigned as supt. of South Mississippi Charity hospital, Laurel, Mississippi, to enter private practice (See Burgoyne).

CAMPBELL, DR. J. A.—Supt. of East Moline (Ill.) State hospital since 1933, resigned, effective March 1, to join the army.

CARTER, MRS. A. H.—Appointed head of C. J. Harris Community hospital, Sylva, N. C. (See Cordon).

CHERRY, CLEMENTINE V.—Resigned as supt. of the John Fitzgibbon Memorial hospital, Marshall, Mo.

COGDALE, ELLA—Appointed supt. of the new Jackson County hospital, Marianna, Fla.

CORDON, GRACE—Resigned as supt. of the C. J. Harris Community hospital, Sylva, N. C. (See Carter).

DELOACH, J. B. K.—New supt. of Columbia (S. C.) hospital (See Duncan).

DUDLEY, JOHN C.—New head of Baptist State hospital, Little Rock, Ark.

DUNCAN, D. G.—Supt. of Columbia (S. C.) hospital, resigned (See DeLoach).

GADDY, CLAUDE F. — Appointed administrator of Rex hospital, Raleigh, N. C. (See Winston).

GAMMILL, COL. LEE C.—Has left superintendency of Baptist State hospital, Little Rock, Ark., to take over duties in the surgeon general's office, Washington, D. C.

HANSEN, EMIL C.—New supt. of St. Luke's hospital, Fergus Falls, Minn.

HARGAN, EVELYNNE—Appointed supt. of Kittson War Veterans' Memorial hospital, Hallock, Minn.

KORSELL, MABEL—Supt. of Ashton Memorial hospital, Pipestone, Minn., resigned, because of ill health.

LABURT, DR. HARRY A.—New head of Harlem Valley State hospital, Wingdale, N. Y.

LONGFIELD, A. L.—Supt. of Washoe General hospital, Reno, Nevada, retired the first of the year.

LYONS, LEO M.—Chicago's relief commissioner since 1936, named supt. of St. Luke's hospital, Chicago (See Merrill).

MADELINE, SISTER MARY—Supt. of Mercy hospital, Fort Scott, Kansas, is now administrator of St. Elizabeth Mercy hospital, Hutchinson, Kan. (See Mercedes).

MERCEDES, SISTER MARY—Administrator of St. Elizabeth Mercy hospital, is now supt. of Mercy hospital, Fort Scott, Kansas (See Madeline).

MERRILL, DR. A. P.—Assistant director of St. Luke's hospital, Chicago, is now medical director (See Lyons).

NORTHROP, DR. CEDRIC—Resigned as supt. of the North Dakota State Tuberculosis sanatorium, San Haven, to become director of tuberculosis control in the Washington State Department of Health.

RUNDE, DR. R. H.—Resigned as supt. and medical director of the Missouri State sanatorium, Mount Vernon, Mo., to take over medical directorship of the tuberculosis sanatorium district of Peoria, Ill. (See Stocker).

SCHENDEL, W. G.—Resigned as administrator and chaplain of the Bismarck (North Dakota) Evangelical hospital, to go to North Central College, Naperville, Ill., as treasurer and business manager.

SOPER, DR. ARTHUR E.—Formerly first assistant physician at Pilgrim State hospital, Brentwood, L. I., N. Y., appointed supt. of Kings Park (N. Y.) State hospital.

STOCKER, DR. J. A.—First assistant physician at Missouri State sanatorium, Mount Vernon, Mo., is now supt. and medical director. (See Runde).

WALKER, FRED M.—Administrator of the Charlotte (N. C.) Memorial hospital, resigned Feb. 1.

WINSTON, M. E.—Resigned as administrator of Rex hospital, Raleigh, N. C., since Feb. 1. (See Gaddy).

DEATHS

CUTTER, DR. WILLIAM DICK (See Page 30).

MASON, DR. B. HENRY—Widely known psychiatrist, recently retired as supt. of Waterbury (Conn.) hospital because of ill health, died Jan. 1 at his home in West Hartford, Conn. Aged 60 years.

Openings

Jacksonville, Fla.—Hope Haven Tuberculosis preventorium has a new nurses' home providing housing quarters for 16 nurses, complete with spacious living room, combination kitchen and utility room. The third floor of the hospital, used the past two years as a dormitory, will now be available for its intended purpose, housing the surgical, dental and x-ray departments, laboratory and other facilities.

Carbondale, Ill.—The new Holden hospital was recently completed at a cost of $125,000. This building can now accommodate 75 people instead of 50, the hospital's previous capacity.

Chicago, Ill.—Mount Sinai hospital on Jan. 15 opened a new pediatric department, dedicated by the Henry Davis 400 organization which provides facilities for child care at that institution.

Springfield, Ill.—St. John's hospital has a newly decorated maternity section, completely equipped and opened for patients on Jan. 20. The first baby born there was given free hospital care.

Dyer, Ind.—Opening of the new $300,000 psychiatric hospital by the first of February was anticipated. The building, built on an 80-acre tract located west of the business district, will house about 120 patients. It will be operated by the Sisters of Mercy.

Brooklyn, N. Y.—Kings County hospital recently dedicated a new million-dollar dispensary building.

New York, N. Y.—St. Vincent's hospital dedicated the Archbishop Spellman pavilion on Jan. 4. The capacity will be increased from 425 to 600 beds by the new facilities. Expanded services will include eight modern operating rooms and new laboratories, emergency unit with blood bank, plaster cast room, modern maternity unit, enlarged pediatric quarters, x-ray and radium therapy equipment.

New York, N. Y.—Some 1,500 visitors inspected the new $1,000,000 building of Roosevelt hospital, Jan. 8. The new facilities, occupying five floors and a solarium, include rooms for patients, a laundry, cafeteria for doctors and nurses, hospitality room for visitors, four major operating rooms, central supply unit, pharmacy and sun rooms.

New York, N. Y.—A new wing and entrance was dedicated some two months ago at St. Elizabeth's hospital.

New York, N. Y.—On Jan. 20, Westchester Square hospital opened a new half million dollar extension, adding 110 beds and 30 bassinets to the capacity, making a total of 169 beds, materially bolstering facilities in that section of the Bronx.

Cincinnati, O.—Good Samaritan hospital added 16 beds to its accommodations for neuropsychiatric patients, with the opening of a new wing, in December.

Hamilton, O.—Butler county has a new tuberculosis sanatorium, opened Jan. 15. Mercy hospital will direct the new facility, through arrangement with the county commissioners.

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Liquid Coating for Glass Reduces Air Raid Hazards

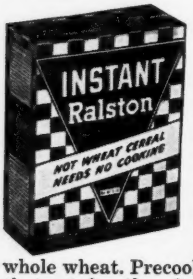
With flying glass the air raid's greatest hazard, hospitals will be interested in learning of a new liquid coating: Roxaneal. It, of course, can not stop glass from fracturing, but its manufacturers say tests have proved it will keep broken glass in place, thus preventing the splinters from flying.

This product, manufactured by Roxalin Flexible Finishes, is available in clear transparent form which does not obstruct vision nor light—it also comes in blackout form. It is applied by brushing on the interior of clean glass which may later be washed with mild soap solutions without affecting the strength of the film. It can easily be removed, if desired, either by peeling off with a razor blade, or washing off with solvents.

At one of the tests made at the proving grounds of one of the country's leading explosive manufacturers, under conditions approximating as closely as possible the concussion and vibration of an air raid, a stick of 60% dynamite exploding only 30 inches from the glass pulverized plain glass, photographs show, while that coated with Roxaneal, while fractured, remained in the frame, without scattering.

HOW to do it . . .
WHERE to get it

Without cost to you any of the literature, or details on the new equipment and products, listed below, will be forwarded promptly by a reliable manufacturer. This information is practical for your hospital. Order by number and address this magazine, 43 East Ohio Street, Room 1016, Chicago, Ill.



No. 200. Precooked Whole Wheat Cereal. A new, hot whole wheat cereal that needs no cooking—Instant Ralston—is currently being introduced to the hospital field and medical profession. Made from a single grain, pure whole wheat. Safe for patients allergic to other grains. Contains 2½ times as much wheat germ as whole wheat. Precooked by an exclusive process that retains the vitamin values present in the uncooked cereal. Just stir into boiling water and serve. Samples and literature free upon request.

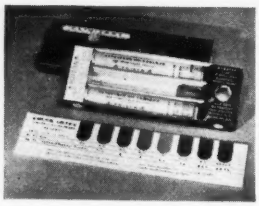
No. 143. Glove Sterilization Suggestions. The most recent material compiled for the benefit of operating room supervisors on the care and sterilization of surgical gloves. Printed on heavy card board suitable for wall hanging.

No. 113. New Hospital Catalog. Just ready for distribution! Write today for your copy of Sklar's 1942 catalog of hospital equipment. All the surgical instruments described in this new catalog are made in the United States, whereas in the past, surgical instruments of foreign origin were included. By way of another interesting note, Sklar company are celebrating their 50th anniversary this year.

No. 199. Amino Acids for Parenteral and Oral Use. As a result of many years of research, Amino Acids-Stearns is now being introduced to the profession. May be administered orally, subcutaneously, intramuscularly and intravenously. Particularly advantageous preoperatively and postoperatively because adequate protein protects the liver from toxic effects of anesthetics and reduces the postoperative loss of nitrogen. Also of value as a substitute for protein feeding in chronic illnesses.

No. 169. Safety Patches for Rubber Goods. Repair punctures and snags! Easy to use—takes just a minute. Makes gloves, bottles, sheeting, etc., last twice as long and cuts replacement expense. Samples sent to hospital superintendents or supervisors on request.

No. 52. High Titre Blood Typing Sera. The typing of thousands of professional donors for the production of Cutter's Human Serum and Plasma has resulted in a typing sera of unparalleled potency. Produced from pooled, undiluted sera and standardized to an agglutination titre of approximately 1:512. One drop of the sera mixed with a drop of saline-cell suspension gives results that can be observed macroscopically in one minute. Descriptive literature available.



No. 193. New Urine-Sugar Test. A simple answer to an old problem is the new reagent test for urine-sugar, available under the name Clinitest Urine-Sugar Analysis set. The new test is quantitatively as well as qualitatively accurate. It requires no heat and no apparatus other than a test-tube and dropper. Actual test consists in dropping a tablet into a small amount of previously diluted urine, shaking it for a few seconds, and examining for color. Write us for literature describing the test.

No. 185. Used X-ray Films. If you have an accumulation of used x-ray films, your request to our address will bring an offer from a reliable buyer. Small quantities, as well as the largest, are purchased. Top prices are paid.

No. 129. Hospital Accounting Procedure. 116 pages illustrating and describing a complete system of hospital accounting forms adaptable to the requirements of hospitals of all sizes and types or organizations, and conforming to the uniform classification of accounts recommended by the American Hospital Association.

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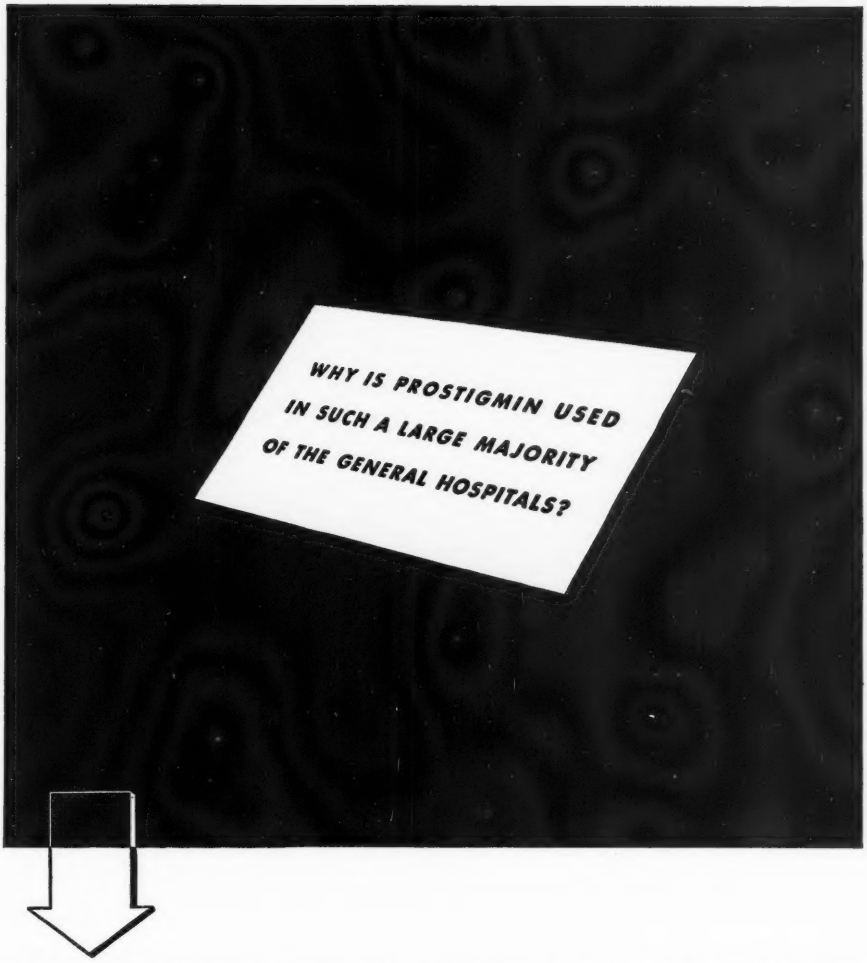

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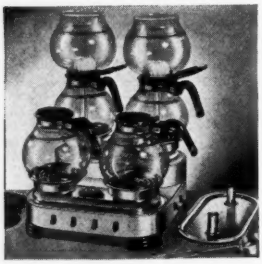
HOW to do it . . .
WHERE to get it

(*Continued from page* 44)

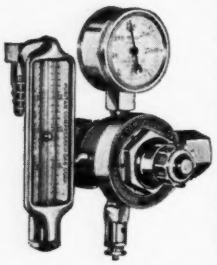
No. 160. Glass Coffee Brewer. Delicious wholesome coffee (untouched by metal) for every hospital need, can be produced in Cory Glass Coffee brewing equipment. Model illustrated (No. 463) 4-burner "step-up" has a capacity up to 180 cups per hour. Send for free 16-page catalog which describes a wide range of models for use with electricity, gas or other fuel.



No. 80. Surgical Dressings. 80-page bound book, outlining the processes in the manufacture of surgical dressings and describing new methods of handling and distributing, as practiced in the hospital of today. In addition to this, the booklet includes a very interesting article on the methods of binding up a wound —from ancient times up to the present day. Illustrations and charts on almost every page make this a highly interesting brochure.

No. 194. Control of Roaches and Other Insects. Gator Roach Hives are sanitary, open-end fibre tubes containing a specially made gum that kills roaches, silverfish, waterbugs and crickets almost instantly. Comes prepared, ready to use. Nothing to mix. Can be used anywhere, with cleanliness, even with food supplies. Economical. Literature and prices upon request.

No. 187. Modern Gas Therapy Equipment. Puritan's new catalog No. 29 describes a complete line of gas therapy equipment, including the new Puritan Oxygen Regulator, which is exceptionally compact and light weight, weighing only 3 lbs. 10 ozs. One setting of flow meter will deliver contents of a compressed gas cylinder without fluctuation in rate of flow. While flow meter is calibrated for pure oxygen only, the unit may be used with mixtures of helium-oxygen and carbon dioxid-oxygen, and the required setting for a desired flow determined by referring to a conversion table accompanying the regulator.



No. 191. Human Plasma and Serum Preparation Using Baxter Techniques is the title of an interesting, illustrated booklet issued by American Hospital. It describes the use of the Baxter Centri-Vac, a vacuum container which can be used for preparing plasma either by sedimentation or centrifugation methods. Therapeutic indications for the use of these two remarkable agents and an extensive bibliography add to its value.

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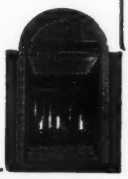

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to
ALL EMPLOYERS

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WINNING THIS WAR is going to take the mightiest effort America has ever made—in men, materials, and money!

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